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REFLECTIONS ON AESTHETIC AND FUNCTIONAL RECONSTRUCTION IN PLASTIC SURGERY

A. KIPIKAŠA

Whenever a plastic surgeon is called in to reconstruct the function a parts of the body impaired by congenital defect, injury, disease, operation or any other therapeutical procedure, the appearance of the affected part should be reconstructed, too, bearing in mind the aesthetic aspect of the reconstruction (1).

Under certain circumstances, neither functional nor aesthetic reconstruction may be possible to the desired degree of perfection. The scope of possibilities is determined not only by the condition of the organism and the extent of damage done but also by the state of scientific development and its uses in plastic surgery and, last but not least, by the skills and personal qualities of the plastic surgeon.

Many surgical operations which until recently seemed quite beyond the scope of possibility are now routin eaffairs. This is a perfectly logical trend of development giving us as well as our patients the comfort of knowing that it can be counted on for the future, too, though at a much more intensive rate. Thus a plastic surgeon is expected to be well-versed not only in the strictly medical and surgical affairs but also in matters of aesthetics — he should have a sense of the harmony, symmetry and proportionality of the human body as a whole as well as of its particular parts.

Seen from the medical point of view, there are certain recognized factors which determine the beauty of the human body and which are independent of momentary taste and fashion. Such factors, the details of which will be gone into next, ought to be taken into account in reconstruction work.

1. Human body shape and characteristics should not be disfigured by any conspicuous inborn defect or any other obvious deviation from the normal human type.

2. The human body should not be stigmatized by any striking evidence of past diseases, injuries, operations or other therapeutical procedures.

Thus, for instance, a competent surgeon will know that the umbilicus has an important aesthetic significance, that loss of it makes the patient feel ashamed, and that this has a negative bearing on the patient's mental condition.

For that reason, the navel should not be removed except under exceptional circumstances, and reconstruction should always be attempted. By the same taken, areolae mammae are equally important.

From what has been said it is important for the plastic surgeon to make the correct choice of the donor site in looking for transplants not only as regards the maximum effect of reconstruction but also as regards the possible deformation of the donor site. For that reason, it is necessary to keep stressing certain principles in planning surgical reconstruction.

— As a matter of course, e.g., the gluteal region should always be given preference to the area of the thigh in looking for free skin grafts.

— For free transplant operations, for instance, good use should be made of skin from the affected area in some of the special types of injury (decollement traumatique, scalping), or in some of the less usual surgical operations (Rehn's plastic operation in hernia, operations for elephantiasis of the extremities, the male genital, etc.).

— In operations for aplasia of the vagina the surgeon should make sure if some other, visually less exposed region such as the inside of the thigh will not serve equally well as the dermoepidermal graft donor site, not to mention flaps taken from this region.

— Webster's flap used in children should be seen as a potential risk of extensive scarring of the abdominal and thoracic walls with subsequent spinal column static disorders.

— The cost should be well estimated beforehand of, e.g., a successful reconstruction of amputated fingers reimplanted without the use of microsurgical techniques.

— One should be extremely careful in planning deltapectoral flaps in young patients.

— The horizontal incision as at present advocated by Pitanguy should be made more use of in operations for abdominal lipodystrophy and diastasis of the m. rectus abdominis, mainly in young women.

3. The condition and appearance of the body should be consistent with the person's age. However, there are individuals who look older for their age due to their constitutional type, disease, or excessive working exertion. At present, in general, people prefer to look younger than they actually are in an effort at camouflaging their age, especially women. This tendency ought to be encouraged so long as is consistent with the patient's mental vitality and abilities. Even here, of course, there are certain limits (from where up to where). There are bonnie children and beautiful old men (Leonardo da Vinci as a youth and as an old man, B. Němcová's granny, etc.) but, of course, children should have no characteristic features of premature adulthood while old people should be free from traits of the very young, particularly not isolated features of the young. A 76-year old female patient after mammary implantation has the breasts of a 16-year old girl but on the whole she gives a grotesque impression because here general condition is one of senile marasmus.

4. The body should be a perfect but not exaggerated type of its own particular sex. In men a change in proportions and body hair may give the

impression of a eunuch while male hair, excessive musculature and flat chest make a woman look unfeminine.

Seen from this point of view, the plastic surgeon's role is to bring out sex characteristics or to adapt them to the correct degree, proportion and shape. This is also to say that operations on transsexuals are rather questionable.

5. A beautiful body should stand as evidence of physical and mental health. The body should be suggestive of the individual's vitality, the physiognomy his mental capacity and gentleness of character.

6. The human body is one single whole. Therefore, even in terms of beauty it should be seen as a whole rather than as a group of separate parts to avoid viewing one as beautiful, the other as ugly. Upsetting the harmony of individual parts may result in the destruction of the beauty of the body as a whole including the individual's characteristics features. Suffice it to refer to some of the personalities of the film world: Chaplin, Belmondo, Jean Gabin, Louis de Funès, Charles Aznavour — none of them could probably make a male model and yet as actors they are each inimitable and original mainly thanks to their characteristic traits and capacity of expression (3, 5, 6, 8, 10, 11).

In aesthetic surgical operations one ought to be particularly well aware of the above criteria as the plastic surgeon is called to reconstruct not only the physical defect but with it also impaired social function and the individual's role in society. In performing plastic operations in this group of patients we are supposed to bring out and again to suppress some of the bodily features — nose, ears, profile, facial ptosis, chest, etc.). In planning his operations, the plastic surgeon makes use of not only what are known as i n d e x e s, i.e. scientifically averaged proportional values, but also of aesthetic criteria in what are really artistic c a n o n s. It is invariably up to him to conduct reconsruction surgical operations to recreate a truthful image of man and to bring out his typical features in a positive way. It is in aesthetic operations in particular that the plastic surgeon must not allow himself to be misled into stereotype embellishment of the human body which would then come out as a sort arithmetic average — a m a n n e q u i n.

On occasion, some patients undergoing aesthetic plastic operations insist on some of their negative features to be reshaped to bring out the opposite (asking the surgeon to turn their large nose, for instance, into a strikingly small one and vice versa. The same applies to protruding ears, breasts, etc.).

Part of these "aesthetic" patients represent a certain risk for the surgeon particularly if they are stigmatized in the mental sphere in the sense of neurosis, narcisism, schizophrenia, homosexuality, drug addition, criminality. This group also includes what are known as "insatiable patients" (2, 4).

At the bottom of his or her heart, everybody desires to look fine and attractive, which is nothing abnormal. The plastic surgeon, however, had better be very cautious and tactful in trying to meet the patient's intimate desires, especially if the latter's vanity is all too obviously exaggerated. Such cases will often involve hypersensitive introverts showing a tendency to sensitive touchiness. Sometimes such exaggerated reaction to a certain deviation from the ideal of beauty may have been touched off by certain experiences of life,

prominent place among which is in our own experience taken by loss of interest on the part of the individual's life partner. Discrepancy between our own objective finding and the patient's insistence should always be taken as a warning sign.

The difference between the way a deformation is tolerated by patients after attacks of serious diseases or injuries as opposed to patients with aesthetic defects is almost always striking. "Aesthetic" patients tend to be much more critical and sensitive to even a minimum of deformation. At the same time, they often project their primary mental or emotional complaints into the somatic sphere. In contrast, patients after an attack of mutilating disease or trauma are often happy at the thought of being restored to life even at the cost of deformity or limited social role.

The significance of social reconstruction in cosmetic operations particularly in the facial region was proved by Pick (7) when corrections of cosmetic defects in prison inmates helped to reduce relapses of criminal offences from the prevailing 20 % down to as low as 2,3 %. From this Pick deduced that facial deformities might become dominant factors in criminal offences and, consequently, that their correction might have a favourable effect on the operated patient's behaviour in relation to society and vice versa. Pick's experience, however, failed to be corroborated by Schuring and Dodge (9).

Plastic surgery and particularly aesthetic surgery as its inseparable part have an important role to play in the socialist society's social care for the healthy development of the young generation, for working women, for citizens engaged in public activities, for members of profession which require authority and personality appeal (pedagogues, actors). In those occupational categories aesthetic operations are seen as part of general health care. In addition, all plastic operations are available to whoever needs them regardless of age, sex, or occupation (1, 3, 6).

Finally, a questions which is asked so often:

In view of what has been said, is *the plastic surgeon a scientist or an artist?* The work a plastic surgeon must be seen primarily as that of a scientist expected to take into account the laws of biology, the facts of macro- and microscopic anatomy, knowledgeable in the physiology and pathophysiology of the human body, in genetics, immunology, psychology, psychiatry and many other disciplines of science. On the other hand, he ought to possess a well cultivated artistic feeling and he should be able to make good use of it in practical work in the interest of his patients.

The work of a plastic surgeon as a scientist is, therefore, seen as overlapping with the work of a plastic surgeon as an artist.

In other words, *the plastic surgeon can be characterized as an aesthetically thinking and acting scientist.* J. H.

SUMMARY

The author first defines the main principle in plastic surgery: reconstruction — not only functional but also aesthetic, though under certain circumstances neither may be possible to the best of perfection. Reconstruction calls

for the observance of certain aesthetic principles which are lasting in nature and independent of momentary taste or fashion. Going into details the author present practical examples of which particular principles should be observed in different types of reconstruction, and of the most frequent errors to be avoied in plastic surgery. Responsibility and caution are essential in aesthetic operations involving the reconstruction of not only physical defects but also impaired social function and the individual's possible role in society. Guidance is provided by scientific averaged proportional values — indexes, but also by canons of the art. A plastic surgeon should always try to recreate man's truthful image including his personality characteristics so long as these are well within accepted aesthetic standards, though he should avoid trying to create average traits at all cost. A human being with such traits gives impression of a mannequin while too much emphasis on characteristic features and exaggeration of characteristic signs are the essence of caricature. References are made to the mental peculiarities of some "aesthetic" patients hypersensitive to even a minimum of deformation. Plastic surgery, including aesthetic operations, are in this country available to whoever needs them. The authors winds up by reflecting on to what extent the plastic surgeon is a scientist as opposed to an artist. In his opinion, the definition is one of an aesthetically thinking and acting scientist.

RÉSUMÉ

Les considérations à propos de la reconstruction esthétique et fonctionelle dans le domaine de la plastie chirurgicale

Kipikaša A.

Dans l'introduction l'auteur parle du principe important de la plastie chirurgicale: la reconstruction non seulement fonctionnelle mais aussi esthétique, même qu'il y a des circonstances dans lesquelles on ne peut pas réussir parfaitement avec la reconstruction fonctionnelle ni esthétique. Le chirurgien plastique doit observer certains principes qui sont permanents et ne dépendent pas du goût ou de la mode. L'auteur traite chaque principe nommé et montre sur les exemples de la pratique les procédés qu'il faut tenir et les fautes, les plus fréquentées dans la pratique, que le chirurgien plastique peut éviter. Il faut tenir les critéres nommés surtout quand il s'agit des opérations esthétiques, parce'que ce n'est seulement la reconstruction du défaut physique, mais trés souvent aussi du fonction sociale qui influence la réalisation de l'individu dans la société. Le chirurgien prend en considération les valeurs moyennes proportionnelles — les indexes, mais aussi les exigeances artistiques. Le chirurgien plastique devrait toujours former l'homme réel, avec les singularités personnelles, qui n'échappent pas aux normes esthétiques. Il ne devrait pas former les caractéres moyens. L'homme aux caractéres moyens ressemble au mannequin, mais l'exagération et l'accentuation des formes et des traite particulièrs mènent à la caricature. Le travail fait aussi remarquer les particularités des certains malades «esthétiques», qui sont trés sensibles même aux déformations minimales. Les opérations plastiques, esthétiques y compris, sont chez nous accessibles pour tous en ont besoin. L'auteur finit par se demander, si l'chirurgien plastique est plutôt le savant ou l'artiste et il dit, qu'on peut caractériser le, chirurgien plastique comme un savant qui refléchit et travaille de maniére artistique.

ZUSAMMENFASSUNG

Betrachtungen zu der ästhetischen und funktionellen Wiederherstellung in der plastischen Chirurgie

Kipikaša A.

Einleitend weist der Autor auf das Hauptprinzip in der plastischen Chirurgie hin: die Wiederherstellung soll nicht nur funktionell, sondern auch ästhetisch sein, wenn auch unter bestimmten Umständen weder die funktionelle noch die ästhetische Wiederherstellung vollkommen durchgeführt werden kann. Bei den Wiederherstellungsverfahren muss der plastische Chirurg bestimmte ästhetische Grundsätze einhalten, die konstant und unabhängig von der augenblicklichen Geschmack- und Modewelle sind. In der Arbeit erörtert der Autor die erwähnten Grundsätze und bei den einzelnen Grundsätzen bringt er Beispiele aus der Praxis, was in den einzelnen Wiederherstellungsverfahren einzuhalten ist, und Fehler, die in der Praxis am meisten auftreten, obwohl sie die plastischen Chirurgen meiden können. Bei ästhetischen Operationen muss man die erwähnten Kriterien besonders verantwortungsvoll einhalten, da man mit dem körperlichen Defekt sehr oft auch die gestörte soziale Funktion und Bestätigung des Individuums in der Gesellschaft wiederherstellt. Der Chirurg richtet sich hier nach wissenschaflichen durchschnittlichen Proportionalwerten — Indexen — aber auch nach künstlerischen Erfordernissen, die in den Kunstkanons inbegriffen sind. Der plastische Chirurg sollte immer einen wahrhaftigen Menschen vollenden, aber mit seinen persönlichen Eingetümlichkeiten, die von den ästhetischen Normen nicht abweichen, er sollte sich jedoch vor der pauschalen Bildung durchschnittlicher Merkmale hüten. Ein Mensch mit durchschnittlichen Merkmalen erweckt den Eindruck eines Mannequins, aber die zu grosse Vergrösserug und Betonung charakteristischer Züge und Formen ist das Prinzip der Karikatur. In der Arbeit wird weiter auf die psychischen Eigentümlichkeiten mancher „ästhetischer" Patienten hingewiesen, die auch auf die minimalste Deformation sehr empfindlich sind. Plastische und also auch ästhetische Operationen sind bei uns jedem, der sie benötigt, zugängig. Der Autor schliesst mit der Erwägung, bis zu welchem Masse der plastische Chirurg ein Wissenschaftler und zu welchem er ein Künstler ist. Er meint, dass man den plastischen Chirurgen als ästhetisch denkenden und tätigen Wissenschaftler charakterisieren kann.

RESUMEN

Reflexión sobre la reconstrucción estética y funcional en la cirugía plástica

Kipikaša A.

En la introducción, el autor destaca el principio básico de la cirugía plástica: reconstrucción no sólo funcional sino estética, a pesar de que en determinadas circumstancias no es posible llevar a cabo a la perfección la reconstrucción funcional ni la estética. En los procedimientos de reconstrucción, el cirujano plástico debe respetar ciertos principios estéticos permanentes que no dependen de los cambios momentáneos del buen gusto o la moda. En el trabajo el autor explica los principios citados y en cada uno presenta ejemplos de la práctica, los cuales son preciso respetar en los respectivos procedimientos; y los errores que en la práctica son más frecuentes pueden ser evitados por los cirujanos plásticos. En el caso de operaciones estéticas, es necesario respetar particularmente los criterios citados ya que al operar un defecto físico restituímos la función social del individuo y su integración a la sociedad. El cirujano se rige aquí por valores científicos relativamente proporcionales — índices, pero también por exigencias incluídas en los cánones artísticos. El cirujano plástico

debería conformar siempre al verdadero individuo también con sus particularidades personales que no escapan de las normas estéticas, aunque debería evitar la conformación de rasgos mediocres. El indivíduo con rasgos mediocres de la impresión de un maniquí, no obstante, un exagerado aumento y destaque de los rasgos y formas caracteristicas es en esencia una caricatura. En el trabajo se señala además las particularidades síquicas de ciertos pacientes „estéticos" demasiado sensibles a desformaciones mínimas. Las operaciones plásticas y también las estéticas son accessibles para todo el que la necesita en nuestro país. El autor finaliza con la reflexión de hasta qué punto el cirujano plástico es un científico y en qué medida es un artista. Se dice el cirujano plástico en posible catalogar de científico estéticamente actuante y pensante.

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RECONSTRUCTION OF THE AURICLE

L. BAŘINKA

INTRODUCTION

The opinion of experienced plastic surgeons that the auricle reconstruction is one of the most pretentious plastic operations in the face, is not exaggerated. If we take into consideration the anatomic complexity of the auricle with it's dominant location on the head, the previous assertion should be considered as quite correct.

The complexity and unsatisfactory results dissuaded many surgeons from plastic reconstructions of the auricle and therefore, a recommendation to wear an epithesis made of plastic prevailed. Numerous plastic as rubber, soft acry-

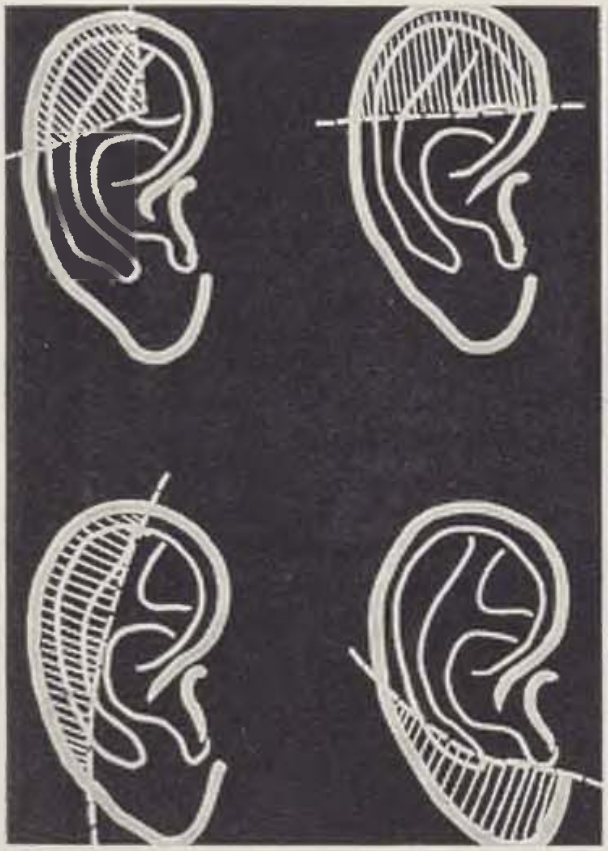


Fig. 1.

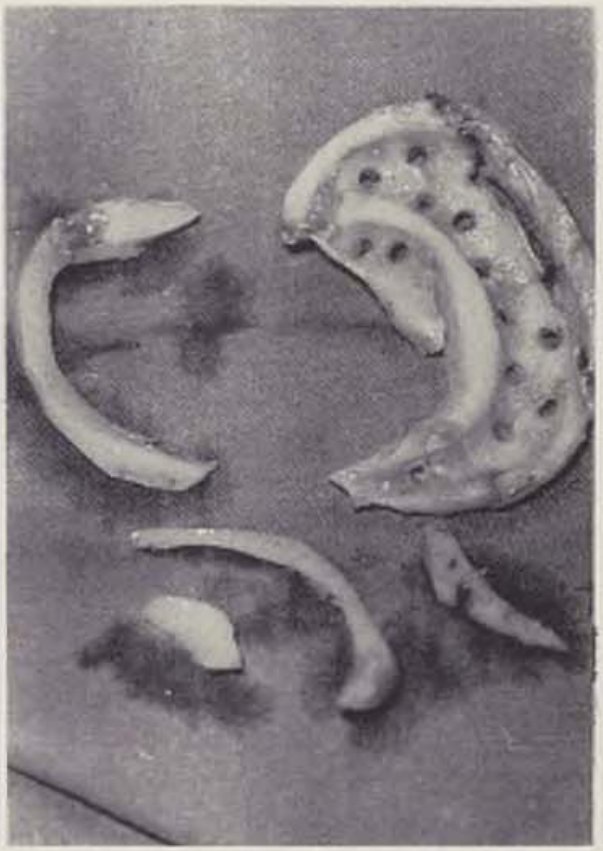


Fig. 2.

Fig. 3.

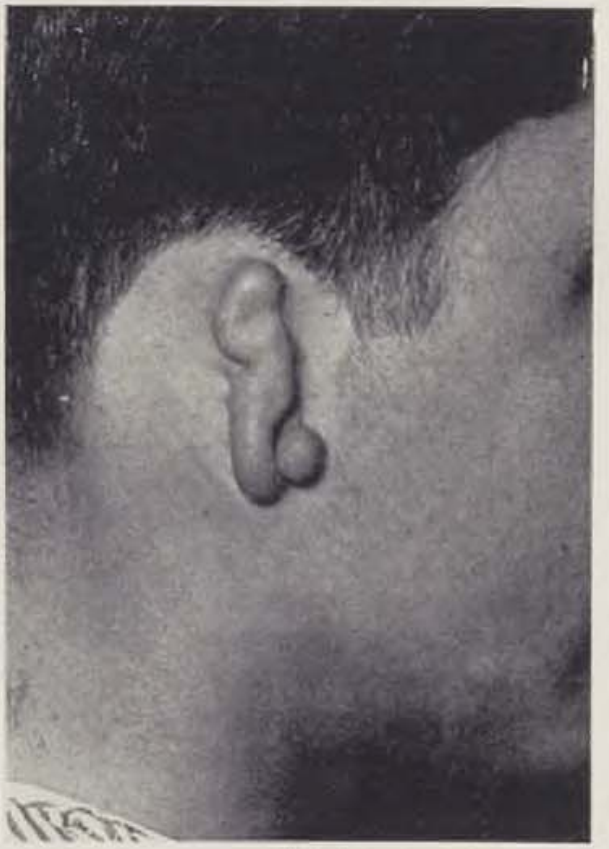


Fig. 4.

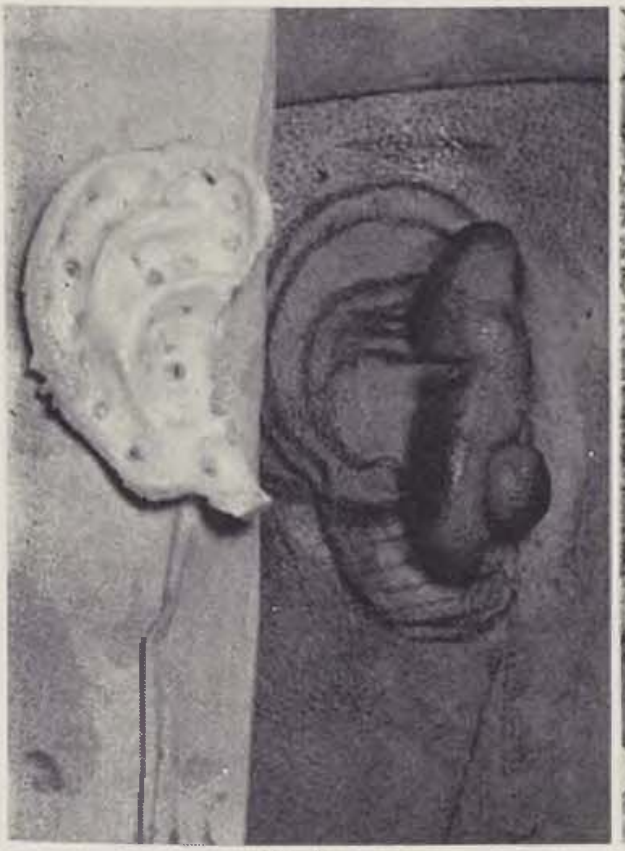


Fig. 5.

Fig. 6.

Fig. 7.

Fig. 8.

Fig. 10. Shows condition before operation at the same patient — woman

lates, polyethylene, etc. were used for this purpose. In the same way, the retention mechanisms holding auricle epitheses have been developed and designed (Fromm, 1958).

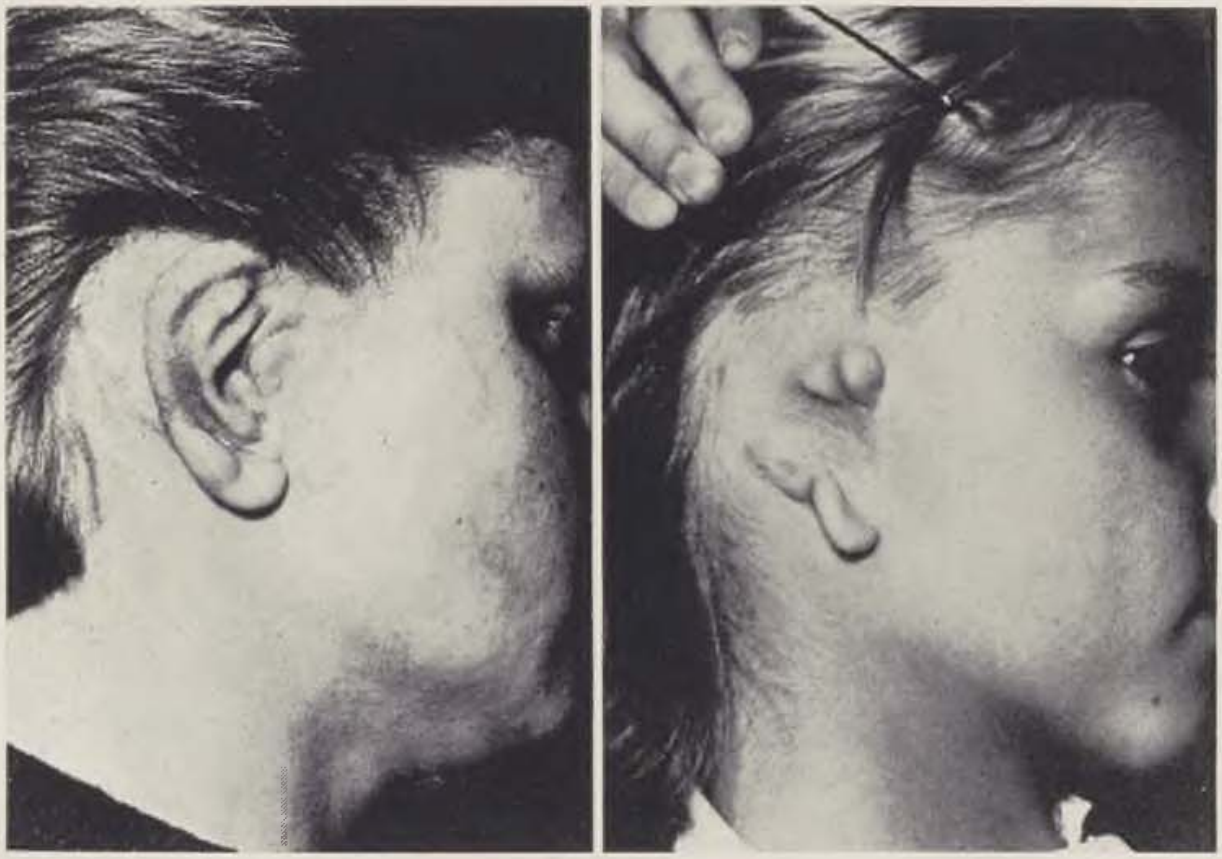


Fig. 11. Shows reconstructed auricle 6 years after the operation. — Fig. 12. Hypoplastic outgrowth was transferred before the cartilage implant. This transfer is unwanted for future implantation. Scared skin limits its shaping.

We are of the opinion that all these endeavours to prefer epitheses to plastic reconstructions have died away or have been dying away. We are convinced that the "neoplasties" even though not quite accomplished should logically win in this endeavour.

Lifelong wearing of a prothetic ear depresses the patient, owing to the fact that defects exclude, especially young people, from social life. Much more suffer from posttraumatic loss those patients who were accustomed to their original auricle, as compared with those having congenital defects. We are not opposed to temporary epithesis wearing, especially when professionally made, as it reduces at least temporary troubles of the patient.

If we ask the rather inadequate question, what is reason for substituing the lost auricle, either due to injury or due to congenita aplasia, being aware of the fact that the auricle does not represent a vital organ, logical judgement follows:

1. It is not possible to exclude the auricle from its function. The perception capacity of sound-waves on the normal auricle has been objectively proved.

This results in a more intensive sonic perception of the individual. Moreover, the auricle represents an important prominence for fixing glasses, this being not a negligebile aspect from the functional and social points of view either.

Fig. 13.

Fig. 14.

2. The exposure of the auricle with prominence from the skull form a significant component part of the face and therefore its absence creates a significant cosmetic fault.

The same endeavour to acquire plastic surgery of the auricle in case of its missing may be seen both with men and women. It remains therefore a question, what means of surgery in posttraumatic loss or congenital defect are to be used in order to create a quick and accomplished compensation and to minimize troubles for the patient.

In the following, we are introducing a kind of procedure project for auricle reconstruction, corresponding to the above conditions. Our experience is based on 16-year experimental work covering these problems and on the overall experience gathered during the 28years' existence of the Clinic of Plastic Surgery in Brno, where during this time period in total not less than 250 patients with auricle defects have been operated on successfully.

The problem of age indication for surgery

a) Reconstruction in posttraumatic conditions.

A principle from the point of view of the surgeon can be expressed stating that in adult patients reconstruction can be performed more easily than in

children. This is because in an adult patient a sufficient quantity of cartilage framework can always be found, disregarding a better cooperation with him. These advantageous conditions are mostly found in posttraumatic states oc-

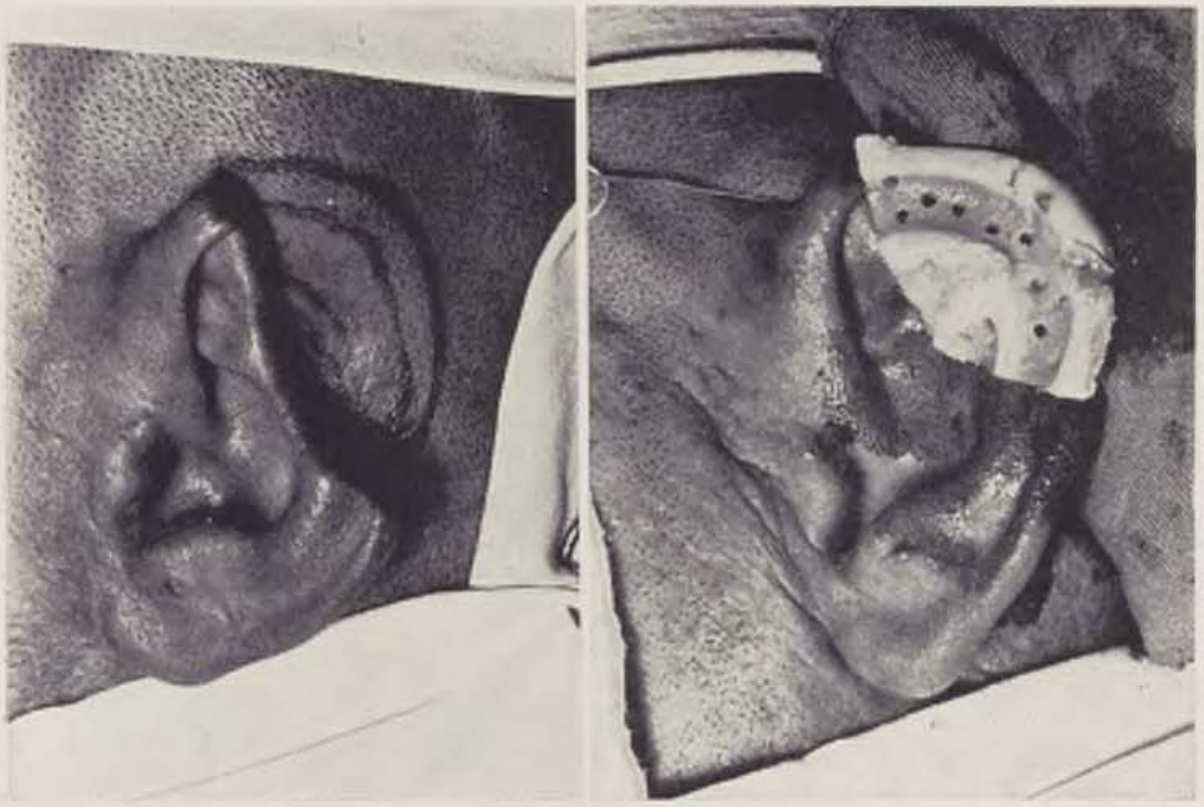


Fig. 15 to 17. Partial posttraumatic loss and method of reconstruction. Fig. 17 shows the condition 12 years after operation.

curring in patients within work conditions or in situations, more typical in adults, as e.g. car accidents, sport injuries, personal insults, etc. In such cases, there is no other way than to reconstruct the auricle at any age period. In the rare cases of posttraumatic loss in children, the indication for auricle reconstruction at a certain age period must be made, this being the subject of further explanation.

Posttraumatic defects are reconstructed generally after healing and consolidation of the defect area and of its surroundig as well. The operation should be postponed until all the hypertrophic scars disappear and perfect blood supply in the skin occurs (Fig. 21, 22, 23).

b) Reconstruction in congenital auricle defects.

The problem of age indication for auricle reconstruction has been the subject of a long-time discussion and can be still found as a constant topic with a number of plastic surgeons.

It is always possible to find the opinion that the reconstruction can be planned and accomplished in children already at their preschool age.

The leading aspect for this early operation is the standpoint of psychologists, who are of the opinion that a child is psychologically handicapped by

his fault among healthy schoolfellows and therefore, it is necessary, by an early reconstruction, to prevent the development of the complex of inferiority, which can results in a permanent psychologic deviation.

Fig. 17.

The parents of the affected child urgently influence the surgeon to remove the defect as early as possible because of the opinion that the surgeon is able to reconstruct the auricle in an accomplished way, as compared with the healthy ear.

Our long-time experience and psychological studies, however, convinced us of quite another opinion. We have learned that even an early-commenced operation at less advantageous conditions can results in its final effect much later than under the supposition taken into consideration by our new procedure, which offers better results. Two significant factors are closely connected with the problem of the time indication of the congenital auricle defect:

1. using the autogenous material for auricle reconstruction (proper rib cartilage);

2. sufficient quantity of quality supporting cartilage structure, which is to be gained in a child, in order to perform the reconstruction, i. e. in a size corresponding with the developed auricle.

We are in principle for using autogeneous material for any kind of auricle reconstruction and moreover, against reconstruction using foreign materials. We have accepted this idea after long-time experience not only in our working

place but also in conformity with the most serious results reported at World Congresses (Bařinka, 1969).

Anthropometric measurements give us decisive indications about auricle development at different life periods of a child and about resulting conditions for a proper reconstruction timing (Dobisíková et al., 1966).

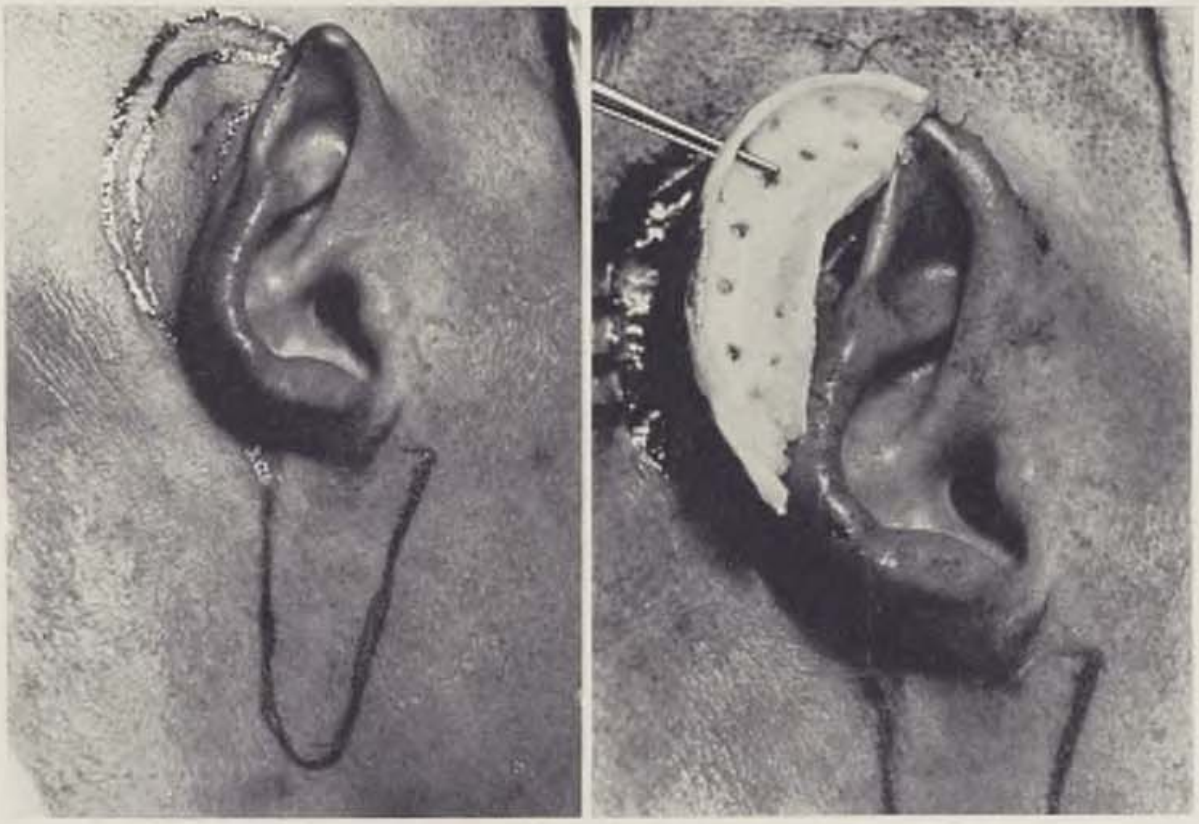


Fig. 18 to 20. Vertical posttraumatic loss of the auricle and method of reconstruction.

PRINCIPLE OF THE NEW METHOD

The reconstruction of external ears using the new method was started in our department in 1958 and it was our aim, at the same time, to remove some of the disadvantages and reconstructive imperfections of former neoplasties of the auricle.

Our new method is, in principle, a modification of the methods of Tanzer and Converse (1964) with some original solutions not previously described in plastic surgery literature. Some modifications which we believe to be original both in technical and tactical procedures, are as follows:

a) The soft tissue of the auricle is constructed of the duplicated flap from the neck. This flap is raised at the same time as the separation of the cartilageneous skeleton from the temporal region (Fig. 6).

b) The cartilage implant is uniformly of approximately 2 to 3 mm in thickness, in order that its weight may be as low as possible and that the auricle may gain its natural elasticity.

c) The implant is perforated by numerous drill holes of 1 to 2 mm in diameter. This enables the connective tissue to grow through and to create so-called connections between dorsal and ventral covering cartilage surfaces (Fig. 3, 9).

Fig. 20 shows the condition 10 years after operation.

d) The cartilage framework creates a support of the two upper thirds of the auricle. At the lower pole, the cartilage support is terminated by a thorn-shaped prominence, the later being fixed on the ventral surface of procesus mastoides. In this way also the total framework is well fixed and its falling-down is prevented.

e) The framework is modelled by means of a drilling machine and dentists milling cutter of common origin.

f) The framework should be modelled from one piece of rib cartilage, but in case of cartilage shortness it is necessary to prefabricate the framework from several pieces of cartilage, sutured by means of catgut; so-called assembled framework creates (Fig. 2, 3, 13).

g) The ventral skin area of the auricle is obtained from retroauricular and mastoidel areas (Fig. 10).

h) In principle, first the modelled skeleton is implanted secondary rudimentary parts are transferred in case of a congenital defect.

i) Also an attempt is made to employ tissue from the cranial part of the hypoplastic outgrowth to construct a tragus and a blind passage with the appearance of the outer part of the auditory meatus (Fig. 4—8).

By serving these principles, better results in comparison with the former reconstructions by means of the tubed flap are obtained. The advantages are seen to be in:

1. The short duration of the aurical reconstruction, which is realized practically in two stages and three operations within a time period of 6 months (Fig. 24—27).

Fig. 21 to 23. Total posttraumatic loss of the auricle. Fig. 22 illustrates shaping of the cartilage before the implantation. Fig. 23 demonstrates results 9 years after operation.

2. The ventral area of the auricle, which did not lose the continuity, keeps then its normal sensitivity, which is important against injury.

3. The colour of the skin and its texture resemble more those of a healthy auricle than with tubed flaps.

4. The resulting anatomic shaping of the complex relief is more accomplished and the new auricle in its thickness and elasticity has the appearance of a normal auricle.

5. In maintaining the timing of surgery until after 10 years of age in case of congenital malformations, a more accurate imagination not only about the final shaping of all prominences and anatomic development of the auricle, but also about its final position at the head can be obtained (Fig. 12—14).

It is to be emphasized that the lower physical stress is required from the patient in using our method, as compared e. g. with tubed flaps, the higher exaction and precision is to be expected from the surgeon. Especially a certain imagination of the surgeon in forming the cartilaginous framework is necessary, notably if the framework is to be composed out of a greater number of cartilage pieces.

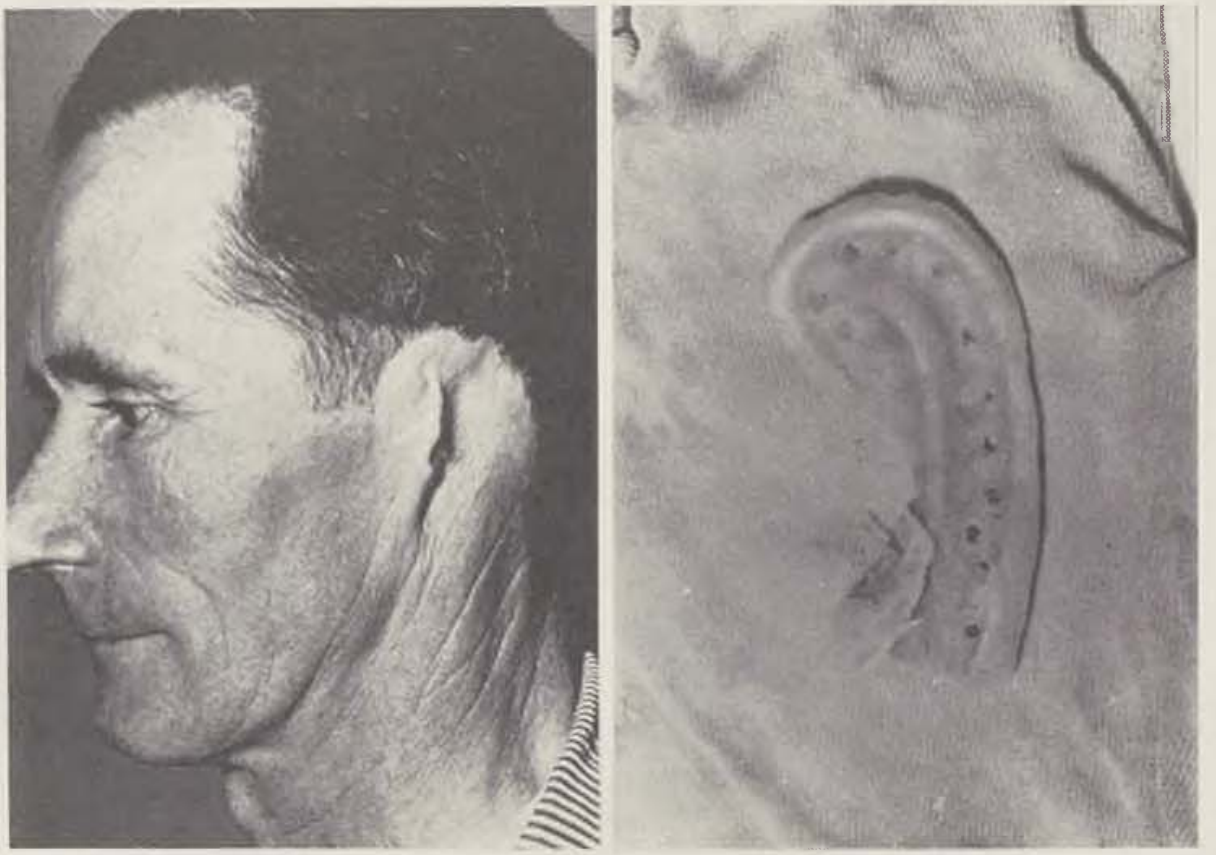


Fig. 24 to 27. Total posttraumatic loss of the auricle and method of reconstruction. Fig. 25 demonstrates shaped cartilaginous implant before its implantation.

a) Reconstruction in posttraumatic conditions.

1. using the autogeneous material for auricle reconstruction (proper rib cartilage);

2. sufficient quantity of quality supporting cartilage structure.

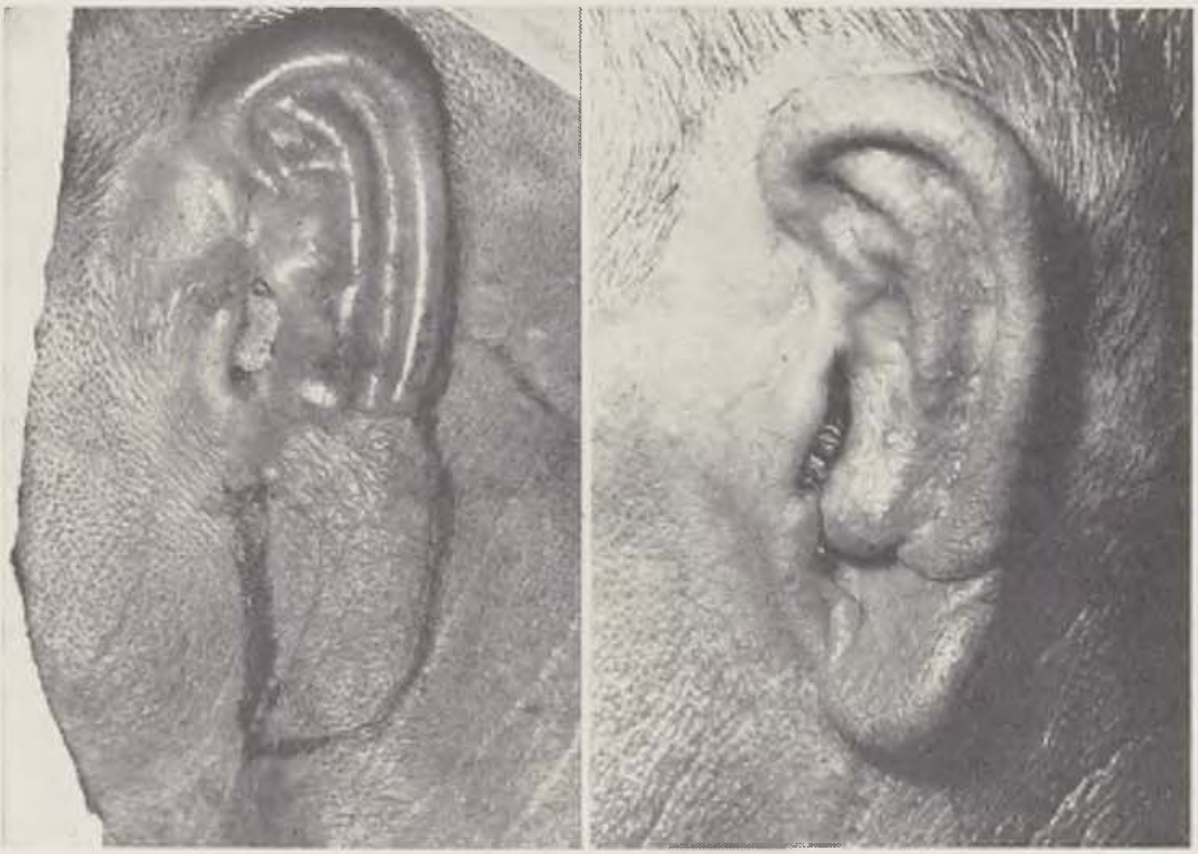
Also the manual ability of the surgeon when handling the cutter during the framework machining is significant to great extent.

From 1958 to 1976 we gathered practical experience using the new method in 46 patients operated on having one-side congenital defects of the auricle, 61 patients having posttraumatic defects of different extent. The experience in reconstruction by means of tubed flaps in congenital malformations and posttraumatic defects was gained from 1948 to 1958 in 143 patients operated on.

For better review, it is possible to classify auricle defects into 4 groups according to the character of congenital defect or according to extent of posttraumatic defect (Fig. 1).

CONCLUSIONS

The new method described has a number of advantages. The reconstruction of the auricle is relatively less exacting than in using tubed flap plasty and can be almost completed in 2—3 operations at 4—6 month intervals. In addition to having a more natural shape, the sensitivity of the auricle is maintained



shows results after implantation of the cartilage and before the separation of the cartilage implant. The same figure shows future necl. flap, which is raised at the same time as the operation of the cartilaginous implant. Fig. 27 demonstrates results 17 years after operation

since the skin of the anterior surface remains connected with its si e of origin, which is well supplied with vessels and nerves. A further great advantage over tubed flap plasty is the inconspicious and normal skin coloration of the reconstructed auricle and its almost normal thickness and natural elasticity. Perhaps its one relative disadvantage is the age at which the operation can be performed. This must be postponed until after 10 years of age when an adequate amount of cartilaginous material is available, which is essential for obtaining a good result. We do not uphold the use of alloplastic material and have not even found homoplasty satisfactory in many cases. In principle we model the cartilagenous skeleton from autogenous rib cartilage and we give permanent construction preference over epitheses.

J. H.

SUMMARY

A new method of reconstruction of the auricle has been in use at the department of plastic surgery in Brno since 1959. It can be used for the treatment of both congenital malformations of the external ear and posttraumatic partial or even complete defects. The new method, a modification of techniques according to Tanzer and Converse with some original elements, can achieve

reconstruction of the auricle in a much shorter period of time than used to be the case of tubed flaps taken from the arm. There is less stress, which is significant particularly in older patients. The reconstruction requires an average of 2 hospitalizations within the space of one year. No heterogenous material is used for the reconstruction of the auricle. J. H.

RÉSUMÉ

Reconstruction du pavillon d'oreille

Bařinka L.

On a décrit un nouveau mode de la plastie du pavillon d'oreille, qu'on pratique à notre clinique de la plastie chirurgicale à Brno depuis 1959. Cette méthode peut être utilisée quand il s'agit soit des malformations innées du pavillon d'oreille soit des défauts totals ou partiels dûs à l'accident.

Ce nouveau mode se présente comme une modification des procédés d'aprés Tanzer et Convers avec quelques élements originals. A l'aide du mode nouveau on peut obtenir la reconstruction du pavillon d'oreille dans le temps plus court à la différence des méthodes connues auparavant. Les malades en souffrent moins, ce qu'il est important surtout pour les clients agés. La reconstruction exige deux hospitalisations au cours d'une année. Notre méthode de la reconstruction du pavillon d'oreille ne permet que l'utilisation du materiel homogéne.

ZUSAMMENFASSUNG

Wiederherstellung der Ohrmuschel

Bařinka L.

Es wurde eine neue Methode der Wiederherstellung der Ohrmuschel beschrieben, die an unserer Klinik der plastischen Chirurgie in Brno seit dem Jahre 1959 angewendet wird. Man kann sie bei der Behandlung sowohl angeborener Ohrmuschelmalformationen, als auch der posttraumatischen Teil- und Volldefekte benutzen. Die neue Methode ist eine Modifikation der Verfahren nach Tanzer und Convers mit einigen Originalelementen. Mit der neuen Methode kann man die Wiederherstellung der Ohrmuschel in einer viel kürzeren Zeit erreichen, als es bei den Verfahren mit der Anwendung des Armzylinderlappens der Fall war. Die Patienten werden einer geringeren Belastung ausgesetzt, was besonders bei älteren Patienten von Bedeutung ist und im Durchschnitt benötigt die Wiederherstellung zwei Hospitalisierungen im Verlauf eines Jahres. Unser Verfahren lehnt vollkommen die Anwendung eines heterogenen Materials bei der Wiederherstellung der Ohrmuschel ab.

RESUMEN

Reconstrucción de lóbulo

Bařinka L.

Se describe el nuevo método de reconstrucción de lóbulo usado en nuestra clínica de cirugía plástica de Brno desde el año 1959. Es posible usarlo en el tratamiento, tanto de las malformaciones congénitas de lóbulo, como en el caso de defectos parciales o totales causados por accidentes. El nuevo método es una modificación de los procedimientos aplicados por Tanzer y Convers con ciertos elementos originales. Con el nuevo método puede lograrse la reconstrucción del lóbulo en un período de tiempo

mucho menor que usando los procedimientos que usan el lóbulo cilíndrico braquial. Los pacientes están expuestos a menores sufrimientos, lo cual es importante, particularmente, en los casos de los ancianos. En promedio, la reconstrucción requiere dos hospitalizaciones en el término de un año. Nuestro procedimiento rechaza totalmente el uso de material no humano para las reconstrucciones de lóbulo.

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AUGMENTATION MAMMAPLASTY USING SILASTIC PROSTHESIS

J. JANOVIČ, F. MARIŠ, M. BROZMAN, J. FEDELEŠ, Š. ZBOJA

The importance that women — and not only women — attach to a well-shaped bust is generally known. In many cases it is only the outline of a well developed bust that suggest memmership of the fair sex. Women with hypoplastic breasts suffering from nature's injustices had long had to put up with the unreliable results achieved by using corio-fat transplants. In 1962, a Silastic^R breast prosthesis (Cronin's idea) was implanted to the first female patient. This Dow Corning (USA) product has since found good use all over the world, and women thus afflicted as well as plastic surgeons have hoped for a definitive solution to the problem using augmentation. By undergoing the operation the patients stand a good chance of regaining the missing feeling of confidence, satisfaction and equanimity.

SURGICAL PROCEDURE

Augmentation is performed in general or — less frequently — in local anaesthesia. The submammary incision was used in all cases as it allows a reliable aproach to the layer between the mammary gland and the pectoral muscle where the prosthesis is implanted. Neither the periareolar nor the axillary approaches were seen as adequate. Subpectoral implantation has so far not been attempted. An elastic fixation dressing is applied postoperatively and left on until ID stitches can be removed. Exercise of increasing intensity is permitted after a period of 6 weeks. Patients are recommended to wear loose bras for 3 months.

RESULTS

An evaluation was made of a group of 18 patients who had mammaplasty using silastic implants performed in the years 1967—1979 (Tab. 1).

Prostheses ranging from 175—225 cm^3 in volume were implanted. A volume of 175 cm^3 was indicated in two cases, 200 cm^3 in one patient, and 225 cm^3

in nine cases. In six cases clinical records failed to provide data on the size of implants used. The authors prefer the shape of a drop (used in 56 % of the cases concerned) to the round shape as the former makes the breast thus constructed look more natural. Implants using dacron fixation patches were rated as inadequate because of frequently occurring undesirable edges in the breasts.

Table 1

Year of operation	1967	1972	1973	1974	1975	1976	1977	1978	Jan. 1979
Number of augmentations	1	1	2	1	3	1	4	4	1

Postoperative complications were seen in two patients. In one of them, a 3 mm fistula persisting after partial dehiscence of the suture was sutured on day 27 after surgery. The other developed a hematoma, during the aspiration of which the prosthesis cover was inadvertently punctured by the large puncture needle; as a result of this the gel started escaping. As attempts at closing the puncture failed, the prosthesis was extirpated and exchanged after 8 months using the same type of prosthesis (Fig. 1, 2).

A fibrous capsule of different intensity developed in the surrounding of the implant in most patients, affecting the original natural consistency of the breasts, in some cases altering their shape and symmetry. The assess the degree of capsular contraction Baker's four-degree rating scale was used (12):

1st degree: post-augmentation breast is as soft as before surgery
2nd degree: consistency is less soft, the implant is palpable but no visible
3rd degree: breast is harder, implant less palpable, visible, or there is obvious change in shape
4th degree: hard, tender or painful, cold breast. Conspicuous change in shape.

In our group of patients the following results were noted:

1st degree: seen in 3 patients (17 %)
2nd degree: seen in 11 patients (61 %)
3rd degree: seen in 4 patients (22 %)
4th degree: seen in none of the patients.

DISCUSSION

The immediate results following augmentation mammaplasty performed by competent surgeons usually show classical characteristics: beautiful bust of the right proportion, shape and consistency (Fig. 3, 4). However, a fibrous envelope gradually develops in the course of normal healing following the implantation of foreign material. The body's reaction will depend on the composition of the heterogenous material, its surface and shape. The thickness of the pseudocapsule thus formed is the result of chemical and mechanical irritation of various

intensity, inflammatory reaction, bleeding, and other factors. Due to the prosthesis capsule fibrotisation there is constriction of the implant volume which is soft and compressible. The spherical forces of progressive fibroblastic con-

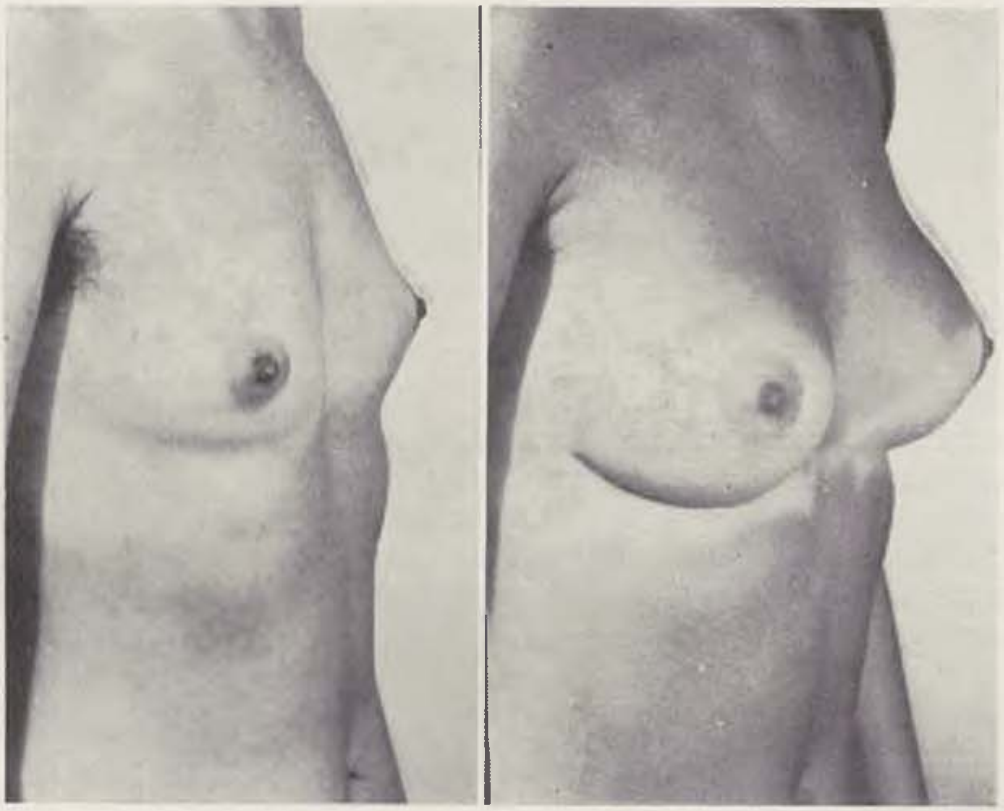

Fig. 3. Hypoplastic breasts in patient before operation. — Fig. 4. 3 months after augmentation of drop-shaped implants of 225 cm^3.

traction tend to change the original round or drop-like shape into a circular or oval one (Fig. 5). This is due to the physical fact that the sphere or ovoid have the smallest surface area of all the solid bodies of equal volume. This may result in the deformation of the implant shape, in positional changes, in the development of surface irregularities or merely in the visualization of the edges of the prosthesis.

The long-term results of augmentation mammaplasty using silastic implants are not satisfactory. Some authors have recommended local application of steroids to prevent the formation of excessive pseudocapsule. However, neither laboratory tests nor consistent clinical follow-up of the effects of steroids have helped to justify their routine preventive use (8). A more comprehensive view is needed for an answer to the question of why there is excessive constrictive fibrous pseudocapsule formation. Atraumatic operation techniques should be taken for granted in plastic surgery. Also necessary are consistent elimination of haematoma development and correct indication for the right size and type of implant. Practical experience confirms better results and fewer complications in smaller rather than larger size implants.

Improvement in the quality of implants, too, should be taken into account. Thus some of the Austrian authors have concentrated their efforts on examining the possibilities of surface treatment in silastic implants (13). Electron micro-

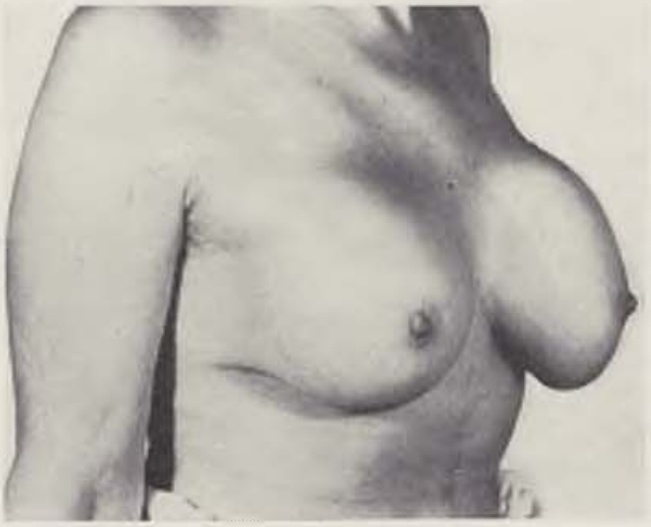

Fig. 5. 12 years after augmentation. Originally drop-shaped breasts altered to unnatural ovoid shape. Breasts are of stiff consistency.

scopy revealed surface irregularities in what were supposed to be smooth-surfaced implants. Thus, the irregularly granular surface of the top layer of a silastic prosthesis may later on lead to constrictive fibrosis. Microchemical analysis of phagocytosed and histiocyte-enveloped granules, which are found in the pseudocapsule around the implant, showed them to contain considerable concentrations of silicone.

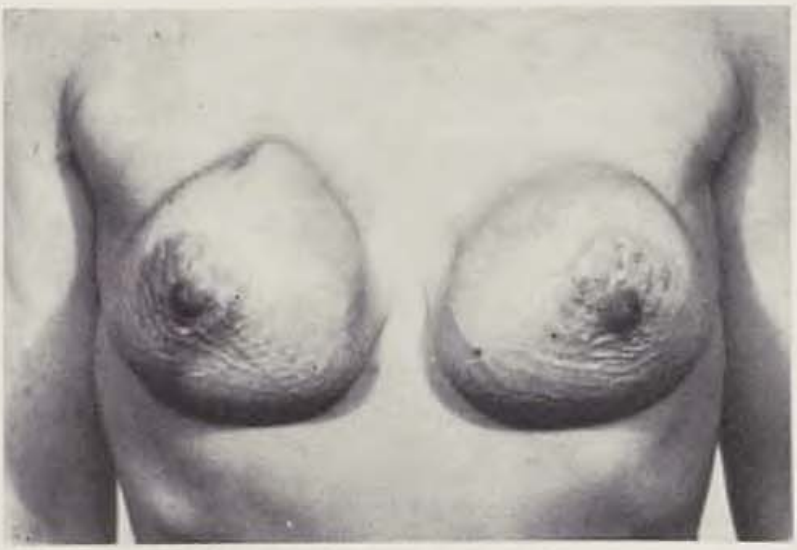

Fig. 6. 3 years after augmentation. Stiff constrictive pseudocapsule causing irregular deformation of both breasts.

We have had no experience as yet of treating patients affected by the development of the tough pseudocapsule using different techniques of capsulotomy. Also, there had not been a single complaint by the time of evaluation. This may be put down to the plastic surgeon's correct psychological preparation who was able to make the patients accept the supposedly "excellent" quality of the augmentation implants (Fig. 6).

Proceeding from our own experience coupled with literary studies we see the problem of satisfactory treatment of women with hypoplastic breasts as an open unresolved one. There is still uncertainty as to the final correction of breasts using the presently employed type of silastic implants. As a measure designed to prevent the development of constrictive pseudocapsule we can recommend long-term expansive exercise (12). Patients are instructed on the need for regular consultations with the plastic surgeon. In case prevention using expansive exercise fails they are told of the possibilities for freeing the pseudocapsule thus formed manually — using pressure — or surgically. Frequent augmentation would put the surgeon in the embarrassing situation of having to explain to each patient the problems of possible relapses and the frequency of of loosening hard fibrous pseudocapsules.

J. H.

CONCLUSIONS

The authors report on the results and experience of augmentation mammaplasty using silastic implants in a group of 18 patients. Long-term results confirmed the development of constrictive fibrous pseudocapsules of varying intensity. The formation of a stiff pseudocapsule may cause the deformation of the original, natural shape of the breast obtained immediately after augmentation.

RÉSUMÉ

La plastique augmentative du mamelon en utilisant les implantations silastiques

Janovič J., Maris F., Brozman M., Fedeleš J., Zboja Š.

Les auteurs présentent leurs expériences avec l'augmentation des greffes implantées silastique et les résultats obtenus chez 18 malades. Les résultats de longue durée ont prouvé la création de pseudocapsule constrictive fibreuse d'intensité différente. La création de pseudocapsule rigide peut déformer la forme naturelle du mamelon, qui fut créé dans la période qui suivait immédiatement aprés l'augmentation.

ZUSAMMENFASSUNG

Vergrössernde Mammaplastik unter Anwendung von Silastikprothesen

Janovič J., Maris F., Brozman M., Fedeleš J., Zboja Š.

Die Autoren berichten über gewonnene Ergebnisse und ihre Erfahrungen mit der Vergrösserung der Silastikprothesen bei einem Krankengut von 18 Patientinnen. Die langzeitigen Ergebnisse bestätigen die Bildung einer konstriktiven fibrösen Pseudokapsel von verschiedener Intensität. Die Bildung der festen Pseudokapsel kann die ursprüngliche, natürliche Form der Brust deformieren, die in der Zeit unmittelbar nach der Vergrösserung erreicht wurde.

RESUMEN

Operación plástica de aumento de las mamas mediante el uso de prótesis de silastik

Janovič J., Maris F., Brozman M., Fedeleš J., Zboja Š.

Los autores informan de los resultados logrados y sus experiencias en la transplantación de silastik en un conjunto de 18 pacientas. Los resultados de largos años confirmaron la creación de pseudocápsulas fibrosas constrictivas de differente intensidad. La creación de pseudocápsulas duras puede cambiar la forma natural de las mamas logrado inmediatemente después de realizada la operación plástica de aumento de las mamas.

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HYPOSPADIAS IN RELATION TO SOME CLINICAL AND PSYCHOSOCIAL PROBLEMS IN ADULTHOOD

A. KIPIKAŠA, F. LONGAUER, E. URBANOVÁ

Hypospadias is an inborn developmental anomaly in which the urethra opens on the under side of the penis or on the perineum. Depending on this, different types are recognized ranging from the least severe and most frequent form — gladular hypospadias, over the less frequent types of penile and penoscrotal hypospadias up to the most severe and rarest forms of scrotal, perineoscrotal and perineal hypospadias. Different data on the incidence of hypospadias are given in relevant world literature. On the average, however, there is one case of hypospadias per 300 baby-boys born. According to statistical data for Czechoslovakia where congenital anomalies are notifiable, the proportion of hypospadias has been on the increase since 1965 — very much like all over the world. Some authors put this increasing number of congenital anomalies including hypospadias down to the „atomic age", others prefer to believe that the incidence remains unchanged while there has been improvement in active detection and early diagnosis. In our own opinion, the reality is somewhere between the above extremes.

From the embryological point of view, a close connection can be seen between urethral development and gonadal descent beginning towards the third month of intrauterine life. The testes should be fully descended into the scrotal fundus by the time the child is born, a feature seen as one of the signs of the neonate's maturity (2, 3, 10).

Although far from everything is as yet clear as to the aetiology and mechanism of the development of hypospadias or testicular position anomalies, the proceedings of the 1973 meeting in Geneva of the INTERNATIONAL HEALTH FOUNDATION (quot. 3) do seem to suggest that the physiological regulary factor responsible for descensus testis and urethral formation should be traced to the anterior pituitary whose production of the gonadotropic hormone FSH (follicle cell stimulating hormone) acts on the seminal canals. Leydig's interstitial cells and androgen production are stimulated by ICSH

(interstitial cell stimulating hormone). A feedback relationship exists between testicular function and the anterior pituitary. The testis itself must be able to respond to gonadotropin stimulation by producing testosterone. During intrauterine life, the correct formation of the urethra as well as the descent of the testes are conditioned by adequate concentration of the mother's gonadotropin (HCG — human chorionic gonadotropin).

Most authors regard hypospadias as a form of incomplete masculinization of the external genitals caused by the premature involution of the interstitial cells of the testes (6, 10).

According to Hynie, retention of the testes in adulthood is found at a ratio of 1:500—1000 males (8). In hypospadias retention is substantially higher — amounting to 5.5 % according to Farkaš. The most frequent findings are hypoplastic testes — in 8.4 %, and testis migrans — in 3.7 % (2). Similar figures are also reported by Savchenko (10). It should be added here that the severer the form of hypospadias, the more frequently the defect is associated with anomalies of the testes.

The above facts prompted the authors the idea of undertaking some more detailed clinical and psychological investigations in patients operated on for hypospadias at the Department of Plastic Surgery in Košice.

MATERIAL AND RESULTS

A total of 119 patients were investigated, most of them adults. There was no particular selection of patients, instead the authors proceeded at random according to chronological entries in the book of operations. The oldest patient was 37, the youngest 12, the average age being 23.5 years. Out of the total of 119 patients, 22 were married including 8 living in childless marriages (for the time being?), 8 had 1 child each, 4 had two children each, 1 had a family of four children.

Types of hypospadias:

hypospadias glandularis	39 patients	(32.77 %)
hypospadias penilis	47 patients	(39.49 %)
hypospadias penoscrotalis	19 patients	(15.96 %)
hypospadias scrotalis	8 patients	(6.72 %)
hypospadias perinealis	1 patient	(0.84 %)
hypospadias sine hypospadias	5 patients	(4.20 %)
Total	119 patients	

Maldescensus testis:

bilateral	14 patients	(11.76 %)
right-sided	9 patients	(7.56 %)
left-sided	5 patients	(4.20 %)
Total	28 patients	(23.52 %)

This figure includes clinically proved pseudohermaphroditismus masculinus in 6 patients (5.042 %).

Hypoplasia testis:		
bilateral	8 patients	(6.72 %)
right-sided	6 patients	(5.04 %)
left-sided	0 patient	
Total	14 patients	

Associated anomalies:	
mental retardation	3 patients
situs viscerum inversum	2 patients
atresio ani et recti	1 patient
tetralogy of Fallot	1 patient
hydrocephalus	1 patient
cleft lip and palate	1 patient
schizophrenia	1 patient
lues congenita	1 patient
Total	11 patients

Complications in connection with hypospadias:	
urinary tract inflammations	10 patients
urethral calculus	3 patients
orchitis	6 patients
hydrocele testes et funiculi spermatici	5 patients
attempted suicide	3 patients
suidice	1 patient

A neophalus was surgically developed in one patient. The patient married in spite of a mild form testicular hypoplasia. By the time of writing this report, he had been married for nine years and had two children (sons).

Reifenstein's syndrome was seen in one patient (hypospadias, bilateral cryptorchism, azoospermia, virilization, gynaecomastia).

Psychosocial complaints:

While taking the patient's detailed specific personal histories, the authors of the present report were able to see surprisingly many psychosocial disorders in a great number of patients. Most of them were had been fearful and reticent already as children, a fact confirmed by their parents who had observed their behaviour at home and at school. So long as their intellect remained unaffected they grew into solitary reclusive adults. Some of them are shy, diffident, coy, distrustful, sensitive, lacking sense of humour. Since childhood they have been trying to stay away from team life suffering interminably from their defect. False shame prevents them from enjoying collective life. Unable to find their place among their fellow human beings they shy from drawing attention to themselves. Exaggerating their condition disproportionately, many of them try to escape into a world of their own. The subjective experiencing of their defect is felt with particular intensity in relation to the opposite sex. Most of them

fear establishing contact with girls for fear of failure during possible sexual intercourse. As a result, many prefer not to take any interest in the female sex at all. These patients describe as critical that period in life, during which the social aspect comes to the fore more than at any other time, such boarding school type of university studies, living in hostels, sports activities and, most of all, conscripted army service. Living in such groups is very much unlike their childhood experience. Grouping according to sex is much more prominent, the organization of social life is rather uniform, there is little privacy. Under such conditions it is difficult to hide one's defect, not to speak of the sometime insulting attitudes and behaviour of the fellow-servicemen or students which can easily drive the sufferer to extreme desperation. It was exactly during service in the army that repeated suicidal attempts were observed in two patients; there was one case of consummated suicide also in the course of military service.

In an effort to keep their hypospadias a secret or to make up for it, some of the patients choose what they believe are typically masculine or at-risk jobs (steeplejack, professional truck driver, miner, etc.). If there is a complication (urinary tract inflammation, urethral calculus) during this critical period, they will try to hide it regardless of other conveicable complications. There were also a few cases of character deformation resulting from accidental breakthrough in the sexual sphere (usually loss of inhibition under the effects of alcohol) followed by repeated and subsequently routine attempts at sexual intercourse. Thus three originally modest boys of some character later on degenerated into uninhibited adults, men about town at any cost. One of them only just escaped from under the wheels of a train with the loss of one lower extremity and part of the pelvic bones and with abdominal wall devastation. One of them, a married man and father of two, contracted gonorrhoea. All of them are chronic alcoholics. However, extremes of this kind should not be generalized as the group includes also patients who thanks to correct upbringing and discipline in childhood were able to overcome the critical period without harm sustained in the emotional sphere, and have had success both in their occupation or studies, and in family life.

Proceeding from the above described facts, the authors wanted to see if there were objective grounds for the hypospadiacs' subjective complaints.

Part of the answer to that question was found in the relatively high rate of incidence of inadequately descended testes or in testicular hypoplasia which may have a bearing on incretory and excretory testicular activity.

There are quite a few studies dealing with this particular problem and adding substance to our presumption. However, there seems to be no report dealing with the subject of testicular biopsy in hypospadias.

11 of the patients who presented for medical check-up had, with their parents' consent, a sparing excision from both testes performed to enable bioptic examination. This brought clear evidence in nine patients of hypospermatogenesis of various degree, and reduction or complete absence of Leydig's cells ("Sertoli cells only").

The relevance of bioptical findings is strikingly consistent with the degree of hypospadias and, to a large extent, with the severity of subjective complaints.

DISCUSSION

Medical check-ups of 119 patients with different degrees of hypospadias yielded several important discoveries. Thus, for instance, disorders of descensus testis in patients with hypospadias are significantly more frequent than in the general population. For that reason, diagnosis for maldescensus testis should be made as early as possible, i.e. between the ages of three to nine months. Diagnosis as early as that is made easier as by that time the patient's cremasteric reflex has not yet developed (6, 7). Treatment for maldescended testis should, in view of the above findings, be introduced between the ages of three months and two years. This should then, after the age of two, be followed by treatment for hypospadias proper except in glandular forms of hypospadias where treatment is delayed until the pre-puberty age.

The need for unity of opinion as regards the treatment of undescended testis and hypospadias is, in our view, urgent mainly because both conditions may in adulthood be responsible for fertility disorders as evidenced by our own bioptic investigations. Undescended testes may also constitute the danger of malignant degeneration and thus become a source of other complications. Patients with some of the severer forms of hypospadias are also increasingly predisposed to disorders in the psychosocial sphere which, far from being negligible, is to a large extent connected with failure of the testes to descend properly and with inadequate incretory and excretory testicular function. Therefore, an all-inclusive treatment of hypospadiac patients is not only the plastic surgeon's concern but also that of the paediatrician-endocrinologist, paediatric surgeon or urologist, and psychiatrist or sexuologist.

Patients with hypospadias should be followed-up for prolonged periods of time and guided in the choice of occupation by social care commissions as well as by primary school teachers with the main responsibility resting on the adolescent medicine specialist following the patient's consultation with the plastic surgeon and psychologist since under certain well defined circumstances hypospadias must be seen as harmful to the affected individual's physical and mental health.

According to a WHO definition "health is a state of complete physical, mental as well as social well-being". From that point of view any follow-up care should also include analyses of the effect hypospadias has on each of the components of the patient's mentality and personality. Should any mental or other disorder develop while the patient is kept under a careful follow-up, specific treatment can be introduced in good time right from the initial phases.

Patients with the severer types of hypospadias should be exempt from conscription for military service as this coincides with the most frequent manifestations of psychosocial disorders and serious chronic inflammations of the urinary tract and testes with all the consequences adverse for the patient

Comprehensive, all-inclusive care of patients with hypospadias can thus become a significant part of the overall planned health care. J. H.

SUMMARY

The definition, classification, and incidence of hypospadias are dealt with first followed by brief comments on the embryology of urethra development and descensus testis as two closely related phenomena. The process is HCH-controlled. Its disorders are conducive to hypospadias which is often associated with inadequacies in descensus testis. To get a clearer idea of the physical and mental condition of patients operated on at the Department of Plastic Surgery Košice the authors investigated 119 patients and performed biopsy of testes in 11 of them. Most of the patients were adults. The results obtained emphasize the need for early diagnosis and treatment of both hypospadias and maldescensus testis. The latter should be dealt with first, followed by treatment for hypospadias after the age of 2 years. The plastic surgeon should work in close cooperation with the paediatric endocrinologist, paediatric surgeon or urologist, specialist in adolescent medicine, and psychologist. Hypospadiac patients should be followed up for long periods of time, offered guidance in their choice of occupation, and, in case of need, exempt from military service. This can help avoid all manner of clinical and psychosocial complications to which hypospadiacs are considerably susceptible.

RÉSUMÉ

Hypospadie en rapport avec quelques problémes cliniques et psychosocials chez les adultes

Kipikaša A., Longauer F., Urbanová E.

Dans l'introduction les auteurs parlent de la définition, classification et de la présence de l'hypospadie. Ils mentionnent des remarques sur l'embryologie de la formation d'urètre et sur la descendence des testicules qui sont en relation étroite. Ce procès est reglé par la hormone humaine choriongonadotropine. Le trouble de ce procès est la cause de l'hypospadie, qui est suivie très souvent des troubles de la descendence des testicules. A la clinique de la plastie chirurgicale à Košice on a examiné 119 de clients, dont 11 se sont soumis à la biopsie des testicules, pour obtenir l'image de l'état physique et psychique des clients après l'opération. Il s'agissait pour la plupart des clients adultes. Les résultats de l'observation montrent là nécessité de diagnostic et traitement opportuns. Il faudrait commencer par le traitement des testicules retenus. La cure continue après deuxième année par le traitement de l'hypospadie. Il en résulte la nécessité de la coopération étroite parmi le chirurgien plastique, pediatrie - endocrinologue, chirurgien - pediatrie, médecin pour la jeunese et psychologue. Il faut dispenser les malades d'hypospadie et les orienter quant à la choix de profession. En cas de besoin il faut exempter le malade. C'est le moyen de prevenir différents complications cliniques et psychosociales auxquelles sont les malades d'hypospadie prédisposés.

ZUSAMMENFASSUNG

Hypospadie in Beziehung zu einigen klinischen und psychosozialen Problemen im Erwachsenenalter

Kipikaša A., Longauer F., Urbanová E.

Im einleitenden Teil befassen sich die Autoren mit der Definition, Klassifikation und dem Vorkommen der Hypospadie. Ferner führen sie kurze Bemerkungen aus der Embryologie der Entstehung der Harnröhre und dem Deszensus der Hoden an, zwischen denen ein enger Zusammenhang besteht. Dieser Prozess wird hormonell durch das menschliche Choriongonadotropin reguliert. Bei seiner Störung kommt es zum Entstehen der Hypospadie, die oft mit einer Störung des Gonadendeszensus verbunden ist. Um eine Übersicht über den körperlichen und seelischen Zustand der an der Klinik der plastischen Chirurgie in Košice operierten Patienten zu gewinnen, untersuchten die Autoren 119 Patienten, und bei 11 von ihnen führten sie eine Biopsie aus den Testes durch. Die Kranken waren überwiegend Erwachsene. Die Ergebnisse der Beobachtung der Autoren weisen auf die Notwendigkeit der frühzeitigen Diagnose und Behandlung der Hypospadie und der nichtdeszendierten Hoden hin. Zuerst sollte man die Behandlung der nichtdeszendierten Hoden durchführen, im zweiten Jahr nach dieser folgt die Behandlung der Hypospadie. Daraus ergibt sich die Notwendigkeit einer engen Zusammenarbeit zwischen dem plastischen Chirurgen, dem Pädiater-Endokrinologen, dem Kinderchirurgen beziehungsweise dem Urologen, dem Jugendarzt und dem Psychologen. Die Patienten mit Hypospadie muss man einer langzeitigen Dispensairebetreuung unterziehen und sie bei der Berufswahl beraten, und wenn nötig sie vom Grundwehrdienst befreien. Dadurch werden verschiedene klinische und psychosoziale Komplikationen vermieden, zu denen die Patienten mit Hypospadie beträchtlich neigen.

RESUMEN

La hipospadia en relación a ciertos problemas clínicos y sicosociales en la edad adlulta

Kipikaša A., Longauer F., Urbanová E.

En la introducción, los autores se dedican a la definición, clasificación y a la frecuencia de los casos de hipospadia. Después presentan puntualizaciones concisas de la formación embriológica de la formación de la uretra y el descenso de los testículos, entre lo cual existe una relación directa. Este proceso es regulado hormónicamente por la coriongonádotropina. El desiquilibrio de esa regulación da origen a la hipospadia, la cual está relacionada frecuentemente con el defecto en el descenso de las gonadas. Con el fin de tener una visión acerca del estado de salud físico e intelectual de los pacientes operados en la clínica de cirugía plástica de Košice, los autores estudiaron a 119 pacientes y en 11 de ellos realizaron biopsia de testículos. Los pacientes fueron en su mayoría adultos. Los resultados de las observaciones de los autores indican la necesidad de un diagnóstico realizado a tiempo, así como del tratamiento de la hipospadia y de la retención testicular. Primeramente debería realizarse et tratamiento de los testículos retenidos y, después de dos años, continuar con el tratamiento de la hipospadia. De esto se desprende la necesidad de estrecha colaboración del cirujano plástico con el pedíatra-endocrinólogo, el cirujano pediatra, o en su caso, con el urológo, el médico de adolescentes y el sicólogo. Los pacientes de hipospadia deben ser controlados largo tiempo y orientardos en la elección de su

profesión y, en caso de necesidad, liberarlos del servicio militar. De esta manera se evitan complicaciones clínicas y sicosociales, a las cuales son tan propensos los pacientes de hipospadia.

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NEW SURGICAL MANAGEMENT IN THE CLEFT PALATE REPAIR AND ITS HISTOLOGICAL ASPECTS

M. BARLOVIĆ

In the surgical repair of the cleft palate, there is still the possibility of postoperative fistulas occurring after either the primary or the secondary closure. This observation, pointed out also by other authors as for example, Matras and Wolf (1), prompted us to further investigate this subject. Thus in 1972, with the purpose of preventing postoperative fistulas, we introduced a new surgical procedure during closure of the cleft palate, which involves the implantation of lyophilized human dura*) as the third, middle layer into the wound. Initial results were published in 1973 (2).

The risks involved with this operation are similar to those of a homotransplantation. Furthermore, Lentrodt, Luhr and Metz (3) utilized lyophilized dura in trauma, that is, in another localization, and obtained both satisfactory clinical and histological results.

In our cases, lyodura was placed between the hard palate and the palatal mucosa, thus covering a part of the opening and the bone.

This procedure can be used in both primary and secondary interventions in the region of the alveolar ridge and palate, and on the border of the hard-soft palate (because the tissue is weak and non-elastic, and the nasal tissue layer tears during surgery). The aim of this procedure is to prevent the penetration of air currents through the sutures; that is, to prevent the formation of postoperative fistulas (Fig. 1).

The attainment of a firmer postoperative region in the area deficient in bone is a subject in itself and will not be reviewed here.

PROBLEM

In our investigations, we were interested in the outcome of the dura in the wound and in whether it remained in tact as a barrier for at least ten days, the amount of time necessary for wound healing.

*) Lyodura Braun, Melsungen, FR Germany

To obtain an appraisal of the complete operation and the histological process in the palate, we carried out our experimental surgical procedure on dogs. These results are reported for the first time.

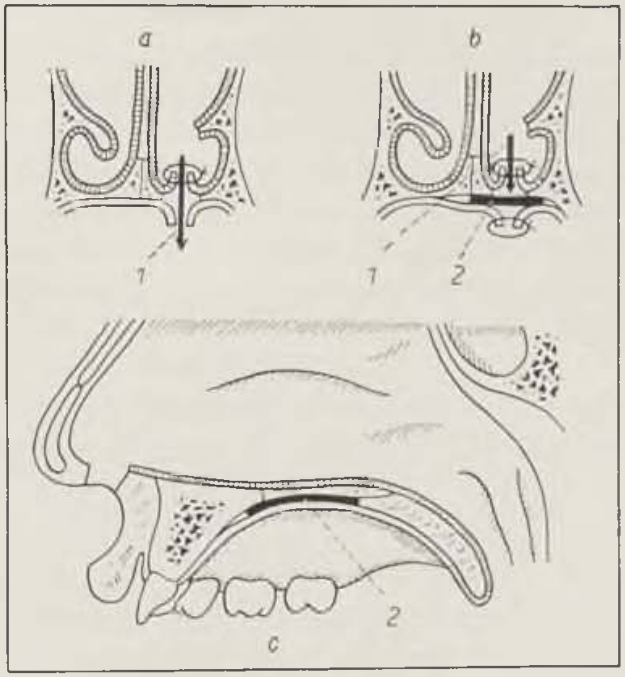

Fig. 1. Diagram of the respiratory air currents (a) before and (b) after insertion of lyodura and (c) the site of insertion in the palate.

METHOD

An opening was surgically made in the palate of six dogs into which the lyodura was inserted and placed on the bony edge of the defect and over the

Fig. 2. Operation on a dog. Insertion of lyodura between nasal and oral mucosa.

defect itself between the mucosa of the nose and palate (Fig. 2). Ten days later, the operated region was extirpated in total (Fig. 3) and histologically examined.

RESULTS

Findings after ten days are the following: In the specimen viewed under the magnifying glass (Fig. 4), the bony lamella can be seen, and in it, the artificial defect covered with the lyodura. The nasal mucosa is everted at the top and the palatal mucosa is located underneath (magnifying glass, Mallory stain). In the Mallory stained specimen, magnified 80× (Fig. 5), the mucosa of the oral cavity can be seen (squamous epithelium at the base) and above the proper mucous membrane, part of the lyodura layer is permeated with granulation tissue. Figure 6, showing the nasal side (upper part), reveals the respiratory nasal mucosa with its proper mucous membrane on the surface. The edge of the bony defect, artificially made, can be observed under it, in the lower right hand corner. The majority of the picture shows the lyodura permeated with granulation tissue.

DISCUSSION

The expectation that lyophilized dura would prevent the occurrence of fistulas, meaning that it had to remain in tact ten days after surgery and serve as a barrier against the penetration of air currents, was completely justified. The insertion of lyodura in dogs (event though a heterotransplant) fulfilled our anticipations. It was not resorbed, although some granulation tissue was present.

The number of our operated patients together with the most recent, still unpublished cases total 35. Included in this number are two postoperative failures, caused by accidental postoperative trauma in the patients.

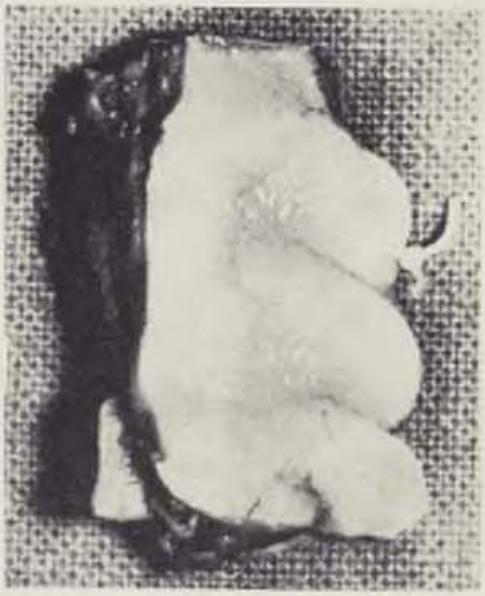

Fig. 3. Operated part of the whole palate of dog extirpated after ten days.

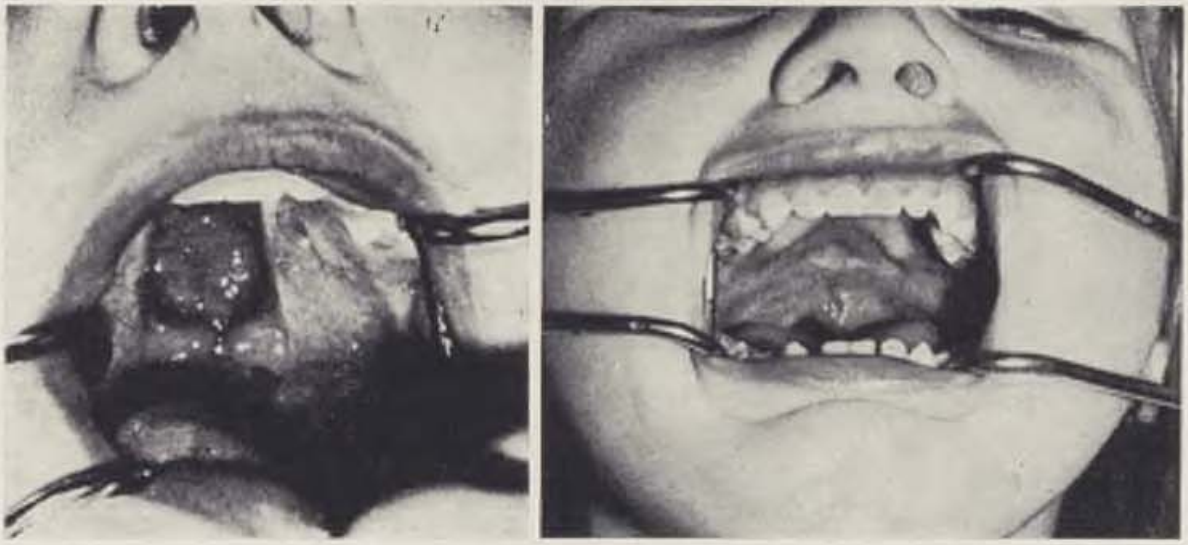

Fig. 7a, 7b. Pre- and postoperative case in which lyodura was inserted at the border of the hard-soft palate.

The illustrations represent two of our cases. Figures 7a and 7b present the pre- and postoperative status of the palate where the lyodura was inserted during primary intervention at the border of the hard-soft palate, and Figures 8a and 8b show the pre- and postoperative status where the dura was implanted along the alveolar ridge, likewise during primary surgery. This surgical approach is not dependent on any other operative method.

CONCLUSION

The use of lyophilized dura during the closure of the palate, as an implantation of the middle layer between the nasal and oral mucosa was justified by

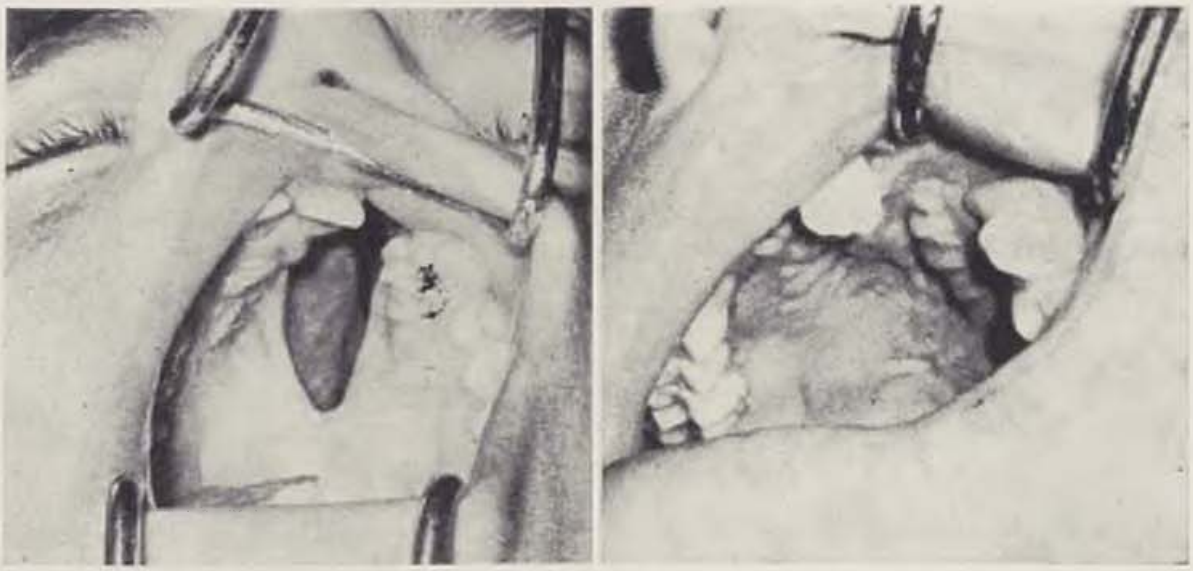

Fig. 8a, 8b. Pre- and postoperative case in which lyodura was inserted along the alveolar ridge.

the results obtained with experiments performed on dogs. The purpose of the trials was to confirm the existence of the lyodura in the implanted area after ten days. They confirmed the opinion that lyodura can serve as a barrier against air currents through the sutures and thus avoid the creation of post-operative fistulas. Based on these findings, this procedure can be routinely applied.

SUMMARY

For the purpose of preventing the occurrence of fistulas after cleft palate repair, the author implanted lyophilized human dura as the middle layer in the region of the defect between the mucosa of the nose and oral mucosa. The author histologically confirmed by experiments on dogs that lyophilized dura remained intact after ten days, thus justifying its use as a barrier against air currents and the formation of fistulas. Operations using this surgical procedure have been performed on 35 patients. In 33, the results were completely successful, but in 2, dehiscence of sutures occurred as a result of mechanical post-operative accidents. Illustrations of the histological specimens and of two operated patients before and after surgery are presented. Considering the satisfactory results, the author now uses this new procedure routinely.

RÉSUMÉ

Aspects chirurgique et histologique d'un nouveau procede de la palatoschisis

Barlović M.

En vue d'empêcher l'apparition de la fistule après l'opération de la palatoschisis, l'auteur a implanté la dure humaine lyophilisée comme couche moyenne dans la région du défaut entre la muqueuse nasale et la muqueuse buccale. Grâce aux expériences effectuées sur les chiens, l'auteur a histologiquement constaté même après 10 jours présence de la dure qui sert comme plaque, recevant le courant d'air et empêchant l'apparition de la fistule. Depuis 1972 jusqu'à présent l'auteur a opéré 35 malades. Le succès complet ont présenté 33 malades et 2 malades ont présenté la déhiscence de la suture qui était provoquée par les lésions mécaniques postopératoires et involontaires des malades eux-mêmes.

L'auteur a illustré les préparations histologiques et 2 malades opérés, avant et après l'intervention chirurgicale. Etant donné que les résultats sont satisfaisants, l'auteur applique ce procédé maintenant comme un procédé de routine.

ZUSAMMENFASSUNG

Ein neues Verfahren bei der Schliessung der Gaumenspalte aus chirurgischer und histologischer Sicht

Barlović M.

Um einer eventuellen Fistelbildung nach der operativen Behandlung der Gaumenspalte vorzubeugen, hat der Verfasser die lyophilisierte homologe Dura als Mittelschicht auf dem Gebiet des Deffekts zwischen die Nasen- und die Mundhöhlenschleimhaut eingepflanzt. Der Verfasser hat Hundeversuche durchgeführt und auf grund histolo-

gischer Untersuchungen feststellen können, dass die lyophilisierte Dura auch noch nach 10 Tagen vorhanden war, womit ihre Anwendung als Platte, die den Luftstrom auffängt und damit die Fistelbildung verhindert, gerechtfertigt ist. Seit 1972 hat der Verfasser 35 Patienten mit Gaumenspalte operiert. In 33 Fällen war der Erfolg vollkommen, während es in 2 Fällen zur Dehiszenz der Nähte gekommen ist durch unwillkürliche mechanische postoperative Selbstverletzungen der Patienten.

Es liegen Abbildungen der histologischen Präparate sowie die Abbildungen von 2 Patienten vor und nach der Operation vor.

In Anbetracht der zufriedenstellenden Ergebnisse wird dieses Verfahren nun vom Verfasser routinemässig angewendet.

RESUMEN

Aspectos quirúrgico-histológicos del nuevo procedimiento para cerrar la fisura del paladar

Barlović M.

Con el fin de impedir la formación de la fístula después de la operación de la fisura del paladar el autor ha implantado la dura humana liofilizada como capa intermedia en el área del defecto entre la mucosa nasal y la mucosa bucal. El autor, tras haber experimentado en perros, ha establecido por medio del procedimiento histológico que la dura liofilizada permanece presente aún después de 10 días con lo cual se ha justificado su aplicación en calidad de placa que recibe la corriente del aire e impide la formación de la fístula. Desde 1972 hasta ahora, el autor ha operado 35 pacientes. En 33 casos el éxito ha sido total y en 2 casos se produjo una dehiscencia de la sutura debido a involuntarias lesiones mecánicas postoperativas por parte de los mismos pacientes.

Ilustrativamente ha presentado los preparados histológicos y dos casos de pacientes operados, mostrándolo antes y después de la intervención. En base a los resultados satisfactorios el autor aplica ahora este procedimiento ya rutinario.

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PLASTIC OPERATIONS OF SOFT TISSUES UTILIZING CARTILAGE GRAFTS

B. V. KATCHOROVSKII, A. B. SAVTCHIK

Very good biological and plastic properties of the cartilage grafts are well known. The chondroplasties have successfully been applied, as an auto- and allogenic cartilage well adapts to the recipient's organism, does not trigger any immunological reaction and is highly viable and resistant to infection. Mikhelson (1935) and other authors have shown that a preserved cartilage taken post mortem possesses the same properties (Krystinov 1975). Since that time, this kind of cartilage became the most widely used material for grafting.

The authors of this report have independently suggested two reconstructive surgical techniques that are different by their nature and purpose of utilization. The preserved cadaverous cartilage is used in both of them as a supporting material. It should be noted that the rib cartilage is applied to unusual regions of the body, i.e. to the lower lip and to the abdominal wall — below the skin around an artificial anal orifice. In these sites, the cartilage is normally absent.

The original method of total plasty of the lower lip utilizing a preserved cartilage allograft. (The author is B. V. Katchorovskii.)

Among other techniques, the use of Filatov's flap seems to be the most feasible one, as a sufficient quantity of soft tissues may be supplied to the new site and no additional damage of adjacent parts of the face and neck is necessary. However, a normal function and cosmetic appearance of this organ cannot be achieved even by this method. The lower lip formed by a wall consisting of cutaneous and fat tissue atrophies gradually and finally transforms into a flabby fold. It covers the mouth vestibule only partially. The mouth fissure cannot be closed tightly, the patients are not able to retain liquids in the mouth, they suffer from sialorrhea.

In order to improve the results of the lower lip plasty, it was suggested by Mikhelson in 1945 to take a part of the orbicularis oris muscle from the upper lip and to transfer it as a strip on two pedicles to the lower lip, which was newly formed from the Filatov's flap (published in Rauer and Mikhlson, 1954). This operation is relatively complicated and the form of the upper lip

is altered. In addition to it, no guarantee is given that the result will be favourable, as a narrow muscle strip may easily become necrotic or substituted by fibrous tissue.

During many years, we have gained an experience with use of a cadaverous cartilage for plastic operations as a supporting material. It inspired our proposal to implant a cartilaginous framework into the lower lip reconstructed by means of the Filatov's flap and thus to improve its form and to prevent its deformation. Up to now, five patients have been operated on. The total defects of the lower lip were present by four rather old patients, due to radical operations of cancer or due to necroses caused by radiation therapy. One patient having a traumatic lesion of the lower lip was hospitalized.

In patients of an extremely old age, the Filatov's flaps were formed in the region of the left pectoral muscle. The skin is flaccid there and can easily be folded. This localization of the flap is advantageous, as it could be moved directly to the border of the defect on the lower lip. By a middle-aged patient, the Filatov's flap of the necessary thickness could be formed only on the abdominal wall. It was transferred temporarily to the hand and then to the defect on the lower lip.

The piece of a cutaneous-and-fat tissue was connected with the border of the defect on the lower lip, the scar being turned downwards. In the next stage, the scar and surplus fat were cut off in all the width of the flap. The flap was shaped by cutting it to fit the size of the defect. Then, one side of it was sutured to mucosa and the other one to facial skin. The mouth was always formed a little larger than would be sufficient for establishment of symmetric relations, as the size of the transferred tissue significantly diminished during the postoperational period.

The first implantation of cartilage into the lower lip reconstructed from the cutaneous-and-fat fold was performed in 1963. During this operation, three rectangular lamellae cut from the cadaverous rib cartilage were introduced and fixed in a palisadelike manner by a catgut thread inside the lower lip formed from the Filatov's flap. The cartilaginous framework was constituted from separate plates, as in this way some flexibility of the lip was preserved, although only in horizontal direction. However, the introduction of multiple cartilaginous plates turned out to be rather inappropriate in respect to difficulties of their fixation and risk of their displacement during the postoperational period. Therefore, the operation was simplified by applying just two somewhat greater lamellae to two patients.

The results obtained by the first 3 patients proved the effectivity of the cartilage transplantation. The form of the lower lip was improved and the atrophy of the soft tissues was prevented. It was observed simultaneously that some stiffness of the lip practically did not affect adversely its function. The lack of elasticity was well compensated by extension of tissues of both cheeks. Therefore, as the last version of the operation, only one undivided cartilaginous plate was implanted. This kind of operation was performed by two patients. This final improved technique will be now described.

It is most feasible to transplant the cartilaginous framework 3 to 4 weeks after reconstruction of the lower lip using the Filatov's flap. The scar is excised under a local infiltrative anaesthesia and the external cutaneous-and-fat layer of the newly formed lip is turned upwards. Small, about 1.5 cm deep pockets are made in the wall of both cheeks. In correspondence with a form of the

Fig. 1. The patient suffering from a relapse of a cancer localized on the lower lip: following radiation therapy, before the surgical treatment (the picture on the left side) and following the total plasty of the lower lip (the picture on the right side). The lip affected with a tumor was fully excised. It was reconstructed using a Filatov's flap. Subsequently, the allogenic rib cartilage was implanted forming a supporting framework of the lower lip.

wound area, the graft is cut from the rib cartilage. The cartilaginous plate should be so large, as its lower margin could bear on the mandibular periosteum, the lateral margins would fill the pockets prepared in the cheeks and the upper margin would support the free part of the lip on the level of mouth fissure. The upper margin of the plate should be at least 0.5 cm wide and wedge-shaped, thinning out downwards and sidewards, following to some extent the natural curve of the mandible. Then, several oblique perforations are formed through the cartilage, which has been prepared in the described way. Subsequently, the connective tissue will grow into them and will make the graft's fixation more firm. The cartilaginous plate is put into the prepared bed. The cutaneous-and-fat flap forming the anterior wall of the lip is turned back and sewn to its original place. The success of the plasty greatly depends on the attention payed to correspondence of the graft's and bed's sizes. If the teeth are absent, a prosthesis should be made prior to the operation.

The postoperational period of all the operated-on patients proceeded quite smoothly, the transplanted cartilage healed without complications. It was shown by analysis of long term results of the operations that the characteristic

physical properties were maintained by the grafts and the grafts were not resolved, i. e. they were perfectly healed in the place. The natural form of the newly formed lower lip was basically preserved and the lower lip's function was quite satisfactory (Fig. 1). The mouth could be hermetically closed, a

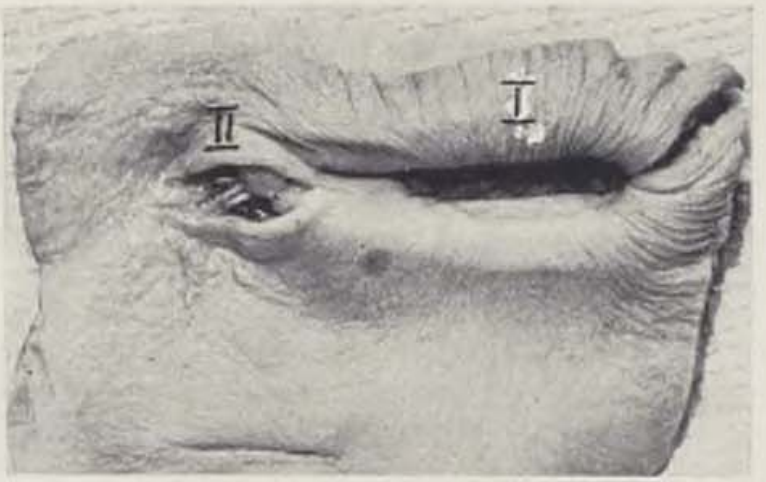

Fig. 2. Preparation of a preternatural anus with a cartilaginous frame implanted under the skin. On the left side from the artificial anal orifice (I), an unsutured skin incision can be seen (II). Approaching through it, the subcutaneous channels encircling the anal orifice were formed and the arch-like grafts of the allogenic rib cartilage were introduced. The sutured ends of the grafts can be noticed in the wound.

stream of air could be blown out, the pronunciation was accurate, the liquid could be retained in the mouth.

In respect to favourable clinical observations, it seems that the suggested technique of the total reconstruction of the lower lip using the cutaneous-and-fat fold followed by the implantation of the cartilaginous allograft serving as a firm framework, could be successfully utilized in the plastic surgery of the face.

The original method designed for transformation of the incontinent anus praeternaturalis into the continent one, while the cartilaginous allografts are implanted under the skin around the artificial anal orifice. (The author is A. B. Savtchik.)

The persisting incontinent anus praeternaturalis is a severe mutilation obligatory disabling many patients treated surgically for intestinal diseases, most frequently following removal of a rectal tumor. The incontinent anus, especially the flat one, has recently been formed in much greater number of cases than the anus ensuring continency. Thus, the number of patients using receivers of faeces has increased. But wearing of the faecal receivers is especially burdensome. They may cause intertrigo and shabbiness of the skin. The skin surrounding the preternatural anus is contaminated by faeces and frequently becomes macerated. Involuntary defecations lead to fear of the patients that they may become intolerable by other people. A cheerlessness of

such a situation results in reticence, pessimism and many times causes a deep depression of the patients. An urgent necessity to help such patients represents a big contemporary problem.

Thus, the task was to find a method, by which the existing simple anus praeternaturalis could be reliably obturated and so the continency of faeces and gases would be restored.

We have solved this problem in a quite new manner. In the skin surrounding the artificial anus, a nest was formed, which enabled a firm fixation of an obturator that safely closed the preternatural anal orifice. The skin fold was strengthened by a framework prepared from a cadaverous rib cartilage, which was implanted under the skin around the anus. The pieces of cartilage were taken from ribs of individuals younger than 40 years, who died by a sudden death. The arch-like segments of identical length (6—8 cm) were excised from the naturally curved cartilaginous region of the 9th and 10th pairs of ribs. Putting the ends of such two pieces of cartilage together and suturing them by a lavsan thread, a ring was formed. It served as a framework for construction of a rigid skin fold, inside which an obturator of the artificial anal orifice could be fixed (the author's certificate No. 228 866).

The excised and modelled pieces of cartilage were preserved in a paraffine-vaseline medium, which was designed by us. The cartilage was maintained in the preservation medium up-to the moment of transplantation.

The cartilage was transferred in the following way. A model of the obturator, large enough to cover the artificial anal orifice, was cut from the autoclaved cardboard under sterile conditions. Then, a ring was constituted from two pieces of the preserved cartilage. The external diameter of the ring should correspond to the diameter of the cardboard model. On two opposite sites situated along a circumference of the anal orifice, two skin incisions about 2 cm long were made.

The dressing forceps was lead into the incisions and the subcutaneous tissue was perforated in such a manner that a circular tunnel was formed around the anus. Two pieces of cartilage were introduced into the tunnel. They were moved towards the centre to the extent when their ends exposed in the incisions touched each other. They were firmly sutured by a durable lavsan thread. As a result, a rigid subcutaneous frame was formed. The skin surrounding the anus acquired a ring-like form serving as a nest for fixation of the obturator (Fig. 2). The skin incisions were tightly sewn. The sutured wounds were isolated from the external environment by a glue.

The obturator should be made from elastic, non-irritating materials. Its construction should enable a compression of its body and its introduction below the sides of the skin fold in the compressed condition. A self-decompression of the obturator leads to its fixation in the anal orifice. It is recommended to prepare a plaster model of the anus and then to prepare the obturator individually for each patient.

This method was applied by 15 patients with the incontinent preternatural anus. The long-term results of the plasties were analysed. Several years after the operation, the anal obturation was still fully effective. The patients were

able to discharge faeces voluntarily by taking off the obturator. They did not need any receiver of faeces. The persistence of morphological features of the cartilage, which was implanted under the abdominal skin cover, was proved by biopsies performed long periods of time after the operation. The firmness of cartilage was practically unchanged.

CONCLUSIONS

1. There was designed a method of lower lip plasty using a Filatov's flap, which was followed by implantation of a modelled cartilaginous rib allograft into the lip as a supporting material. The cartilaginous allograft ensures a stabile form and a good physiological function of the newly formed lower lip.

2. A method, by which the simple preternatural anus can be transformed into a continent one was suggested and applied in the clinical pratice. A nest serving for fixation of an removable obturator was constructed. The preserved rib cartilage allografts were introduced under the skin surrounding the anal orifice. It is possible to close the lumen of the intestine by the obturator and to discharge the faeces voluntarily. M. T.

SUMMARY

Two different reconstructive techniques were suggested for operations performed in soft tissues, by which a preserved cadaverous rib cartilage was implanted, serving as a supporting material.

Katchorovskii suggested and practically used a total plasty of the lower lip using a Filatov's flap. A modelled cartilage graft was implanted into the newly formed lip subsequently. The graft survived for a long time. It provided the lower lip with a stabile form and ensured its good physiological function.

Savtchik designed and practically applied a method, by which the existing preternatural anus may be transformed into the continent one. For this purpose, the cartilaginous grafts were implanted under the skin surrounding the artificial anal orifice. The modelled pieces of the preserved rib cartilage, that were introduced into subcutaneous tunnels and fixed together by a durable lavsan thread, formed a rigid frame under the abdominal skin surrounding the anal orifice. A removable obturator of a special form could be fixed in this frame. By this means, the intestinal content is reliably retained and a discharge of faeces can easily be achieved by taking off the obturator. This technique was clinically applied. The patients were not obliged to wear receivers of faeces and were able to return to their original work.

RÉSUMÉ

L'opération plastique des tissues moelleux en utilisant les greffes cartilagineuses

Kačorovskij, B. V., Savčik, A. B.

On a proposé deux opérations réconstructives des tissus moelleux en utilisant pour l'implantation le cartilage trituré enlevé du cadavre et conservé comme le matériel de renforcement.

Kačorovskij a proposé et mis en pratique la méthode de la plastie totale du lévre inférieur par un lobe de Filatov. Cette méthode consiste en implantation de la greffe cartilagineuse modélée dans le tissu du lévre nouvellement formé. Il s'agit de la greffe de longue durée. Elle donne au lévre une forme fixe et assure un bon fonctionnement physiologique.

Savčik a proposé et mis en pratique le procédé, qui permet changer l'anus praeternaturalis en anus qui tient le contenu entérique. On le fait en transplantant des greffes cartilagineuses sous le cutané autour d'anus artificiel. Les blocs modélés du cartilage trituré conservé, qui sont placés dans les tunnels sous-cutanés, forment un squelette ferme. A celui-ci on fixe l'obturateur d'une forme spécialle, qu'on peut enlever. Il tient bien le contenu entérique, mais il peut être aussi enlevé trés facilement pour que l'intestis se pourrait vider. Ce procédé fut experimenté à la clinique. Comme ça on pouvait débarrasser les intestis malades des excréments et les rendre au fonctionnement originaire.

ZUSAMMENFASSUNG

Plastische Operationen der weichen Gewebe unter Anwendung der Knorpeltransplantate

Katschorowskij B. V., Sawtschik A. B.

Es wurden zwei verschiedene Wiederherstellungsoperationen weicher Gewebe vorgeschlagen, bei denen konservierter Leichenrippenknorpel als verstärkendes Material implantiert wurde.

Katschorowskij entwarf und führte in die Praxis die Methode der totalen Plastik der Unterlippe mit einem Filatowlappen ein, bei der das modellierte Knorpeltransplantat in das Gewebe der neugebildeten Lippe übertragen wurde. Es gibt der Lippe eine stabile Form und gewährleistet seine gute physiologische Funktion.

Sawtschik entwarf und führte in die Praxis ein Verfahren ein, das es ermöglicht, mittels subkutaner, rund um die künstliche Analöffnung übertragener Knorpeltransplantate einen bereits existierenden Anus praeternaturalis in einen Anus umzuwandeln, der den Darminhalt zurückhält. Die modellierten Blöcke des konservierten Rippenknorpels, die in subkutanen Tunels angelegt und gegenseitig mit einem festen Lavsanfaden verfestigt sind, bilden unter der Bauchwandhaut rund um die Analöffnung ein steifes Skelett. Zu diesem wird ein abnehmbarer, speziell geformter Obturator befestigt. Dieser hält den Darminhalt zuverlässig zurück und kann auch leicht abgenommen werden und der Darm kann entleert werden. Das beschriebene Verfahren wurde klinisch erprobt. Auf diese Weise war es möglich, die Kranken von dem Exkrementenbehältnis zu befreien und sie zur ursprünglichen Tätigkeit zurückzuführen.

RESUMEN

Operaciones plásticas de tejidos blandos mediante el uso de transplantes de cartílagos

Kačorovskij B. V., Savčik A. B.

Han sido propuestas dos operaciones diferentes de reconstrucción de tejidos blandos, durante las cuales han sido transplantados cartílagos costales conservados, de un cadáver, como material de afirmación.

Kačorovskij propuso y puso en práctica el método de plástica total del labio inferior con el lóbulo de Filatov, en la cual el transplandado modelado cartilaginoso es

aplicado dentro del tejido del labio recreado. Se trata de un transplante a largo plazo. Otorga al labio una forma estable y garantiza su correcta función fisiológica.

Savčik propuso y puso en práctica un método mediante el cual es posible, gracias a transplantados de cartílago introducidos subcutáneamente alrededor del orificio anal del ya existente anus contranatura, transformarlo en ano capaz de retener el contenido intestinal. Pequeños bloques modelados con cartílago costal, son colocados en túneles subcutáneos y afianzados entre sí con hilo lavsan firme, formando debajo de la piel abdominal un esqueleto firme alrededor del orificio anal. A él de sujeta un obturador amovible de forma especial. Este retiene con seguridad el contenido intestinal y también puede ser quitado facilmente y vaciado los intestinos. Este método fue probado clínicamente. De esta manera fue posible eliminar de los enfermos el recipiente de excrementos y acostumbrarlos a la práctica original.

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PREVENTION OF BURN INJURIES

K. TROSHEV

Prevention of burn injuries is a relatively new feature of the contemporary medicine. So late as in 1965, the discussions on coordinated activities aimed to prevention of the burns were commenced in the limits of the International Association for Treatment of Burns, which belongs to the World Health Organization. The undertakings of the Prevention Committee are especially active and the problems of burn prevention serve frequently as central ideas of scientific meetings, symposia and congresses on burns.

The socialistic countries are very active in this respect. It is in correspondence with a preventive basis of all the health care there. The principles of preventive medicine can realy be practically applied. This approach is so desirable, as the treatment of burns is often prolonged, difficult and expensive (2). Despite the care applied, the burn injuries often result in prolonged psychological, aesthetical and functional consequences, which are resistant to therapy, and personal and social life of the patients is altered.

In our opinion, the prevention of burns is characterized by two features:

1) Its realization proceeds according to the plan, by which appropriate methods and measures, in respect to the conditions, are determined.

2) The prevention of burns is systematic and versatile. It should be related to frequency, localization and mechanism of injuries occurring in different groups of patients of a variable age.

Sörensen (3, 4) stated that the practically useful prevention should be supported by the registered facts: WHO, WHERE, HOW the burn injury has happened, HOW MANY (number, percentage) patients have suffered from the injury. Such questions were answered by patients coming from Varna, Varna region and by seriously injured patients from North-East Bulgaria. The results have been summarized in tables and diagramms attached to this paper.

The burns occur most frequently during the mature creative age of adults and by 1 to 3 years old children. The children are injured preferentially at home, while being "controlled" by adults. Professional burns prevail by men and burn injuries of women take place mostly during their everyday-life activities.

The most frequent reason of burns is a hot liquid by children and a fire by adults. The dynamics of thermal injuries was followed during a year. No significant variations were found by childern, however, the burn injuries of adults were more frequent in July and August.

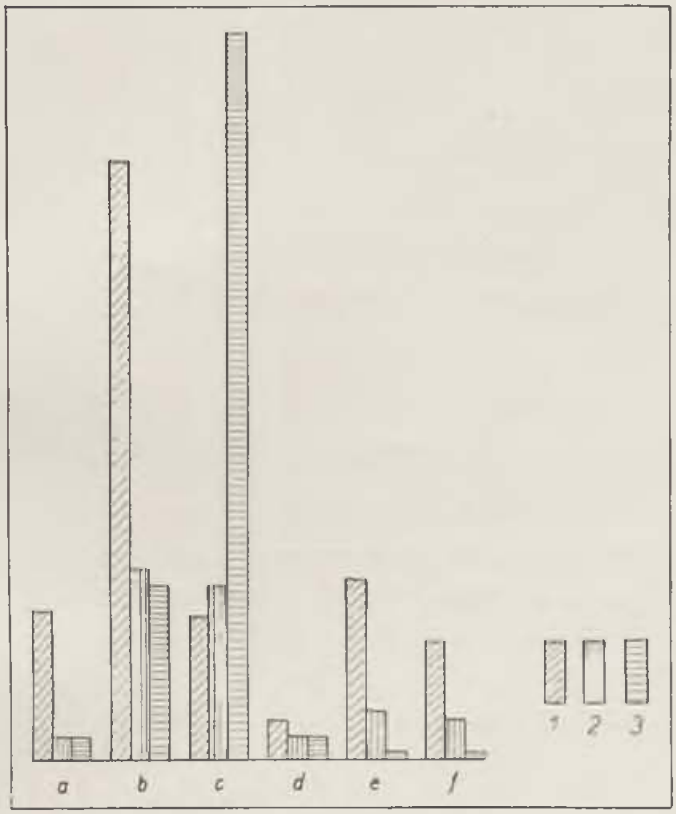

Fig. 1. Causes of injuries by men, women and children
a = electric current b = flame c = liquid d = chemicals
f = metal e = asphalt
1 = men 2 = women 3 = children

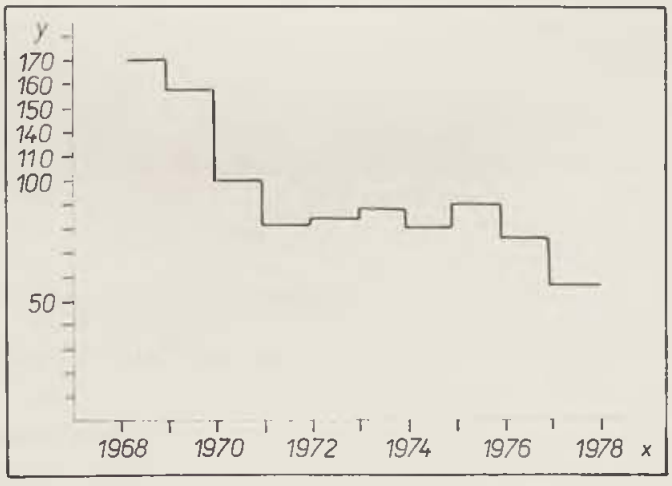

Fig. 2. The number of patienst suffering from burns during the last ten years
y = number x = year

According to our opinion, the statistical data are absolutely necessary for planning of the preventive measures. Based on such data, on features characterizing the course of the burn disease and in respect to its potential compli-

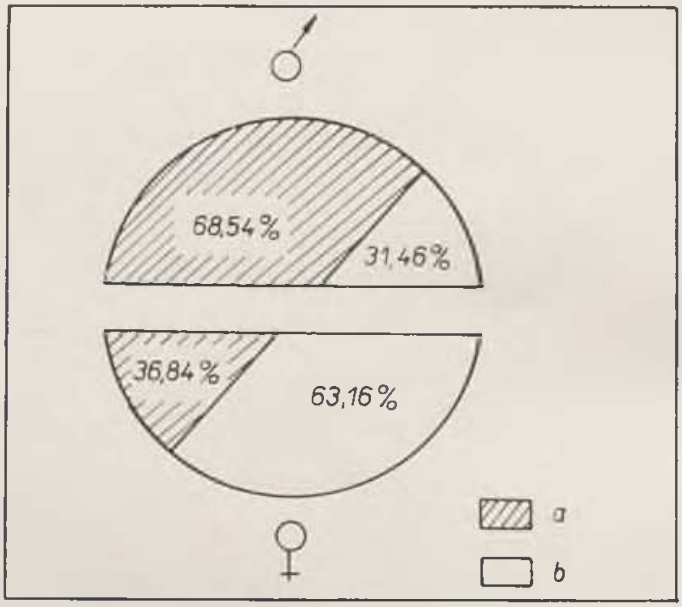

Fig. 3. The environment, in which the burn injury took place
a = professional b = out-work

cations and consequences, we suggested a following classification of the prevention:

1) A primary prevention (before injury).
2) A secondary prevention — during the first sanitary aid,
— during the medical treatment.

The primary prevention seems to be the most important one. If this kind of prevention would be sufficiently radical, it would have to be able to decrease the number of burn injuries both absolutely and relatively. It is realized by all possible means, with the aim to avert or avoid the accidents leading to burn injuries.

In dependence on localization and conditions of the injury, the types of primary prevention are distinguished:

1) A professsional prevention.
2) An out-work prevention during the everyday-life activities.

All measures that improve the safety of preparations to work, of all the manipulations performed during the work process or on its end — including the care of apparatuses and their dislocation — and of the way, how the working place is left, are covered by the term "professional prevention".

The "everyday-life prevention" is directed against all the out-work reasons and contributing factors that may lead to the burn injury.

In the described professional or life conditions, the burn injury may take place according to further two ways or reasons. The measures directed against them can be defined as a technical prevention and a personal precention.

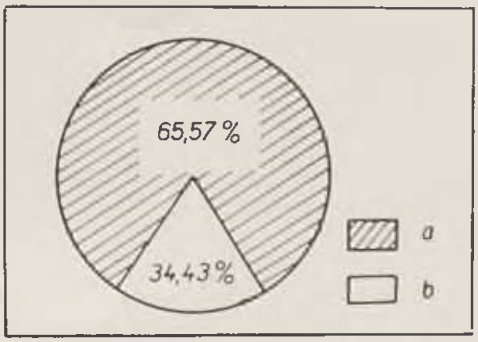

Fig. 4. The children suffering from burn injuries
a = under control b = without control

The technical prevention regards to a good condition of technical appliances, a high quality of safety means, a technical perfection of the working process and of individual processes in the work.

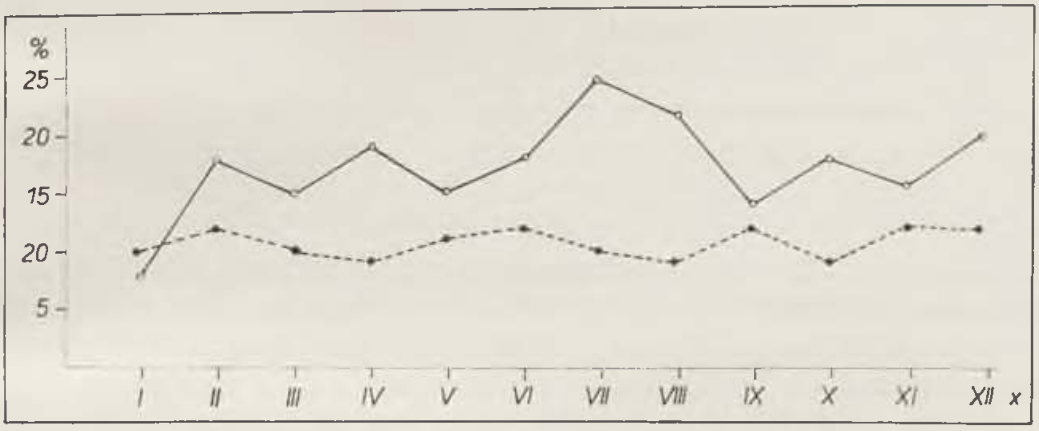

Fig. 5. Relative incidence of burns during a year
adults ●——● childern — — — — — — x = months

The personal prevention represents a very important feature in respect to the patient's participation in the accident. Here belong: a degree of qualification, a general cultural level, a knowledge of a quality and of a technology of the performed activity, features of the personal character — patience, intuition, attention, health condition in the time of the accident — calmness, psychical balance, physical health, life experience — knowledge of possibilities of the thermal injury gained by one's own experience or from experience of other people.

The secondary prevention is related to the two important stages of the care of the patient. It is called "secondary", as it takes place after the injury. The medical care avoiding traumatization is applied. The first aid, both

premedical and medical, has to be so well equipped, informed and trained that the patient's reanimation and complex treatment could be started already in the place of the accident. In this way, the patient may be recovered from the

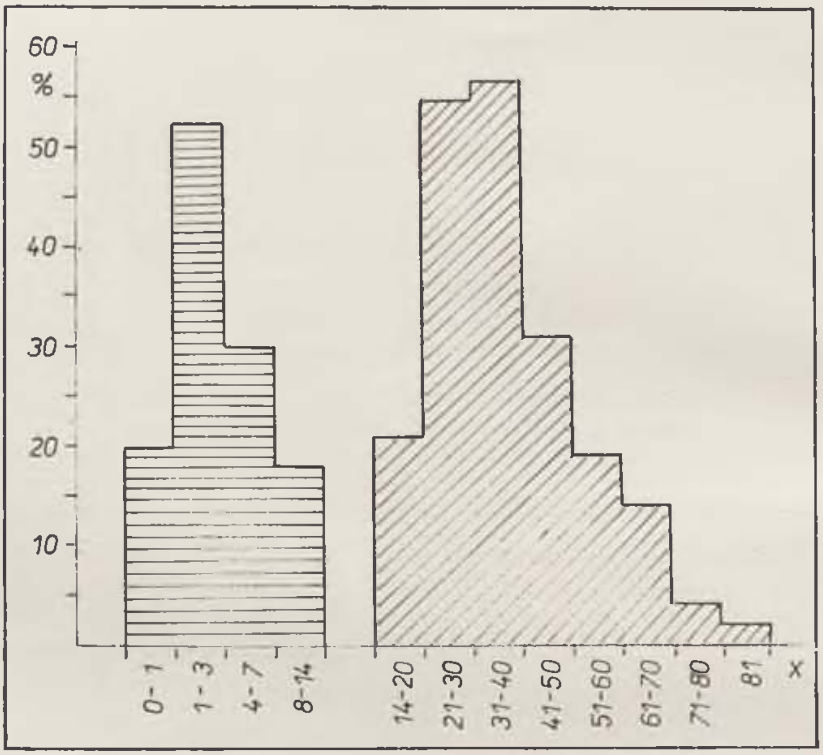

Fig. 6. Relative incidence of burns in different age groups
x = years of age

state of a clinical death, a development of a severe primary shock and contamination of burn surfaces may be prevented. The application of the recent methods of treatment of burns in surgical departments and specialized centres may prevent complications of the burn injuries and their consequences could be avoided. Thus, the number of correcting operation may be decreased.

In respect to the extent and methods, the prevention of burns may be classified as

1) a general prevention and
2) a purposeful prevention.

The general prevention, the aim of which is prevention of burns and of all other injuries generally, makes use of all possible means, i. e. a radio, a television, newspapers, popular scientific publications, visual materials etc. It is realized everywhere, not depending on results of specific statistical analyses.

The purposeful prevention is focused on defined groups of people, by whom the thermal injuries may occur in definite time periods and under definite conditions. The working conditions may lead to burn injuries of a specific type in risk collectives, e. g. burns caused by an electric power occuring by workers employed in electrotechnical industry, chemical burns in chemical factories,

burns caused by a hot water by young children controlled by adults at home etc. Persons, who had suffered some burn injury previously and returned afterwards to the same working place or environment knowing the cause of the

Table

Place	Number	Percentage
At home	390	90.70
At school	1	0.23
In nature	36	8.37
In hospital	3	0.70
Total	430	100.00

injury, belong to this category of prevention, too. Having in mind the system and classification of preventive measures, that has been worked out by us, we applied all types of the purposeful prevention practically. In cooperation with fireprevetion bodies, the collectives in risk working in industry or agriculture were sought. Then a plan was designed, according to which the selected collectives, while being supported by a government, estimated their possibilities of the technical prevention. The importance of the personal prevention was stressed during instructive discussions illustrated by visual materials. The data obtained by our investigations and utilized thereafter were related both to the professional and everyday-life mode of prevention; the measures of the purposeful and of the general prevention were applied as well.

The secondary prevention consisted of activities of the first-aid groups (emergency first-aid groups, ambulances, groups of civil defense). The solution of special problems of the second stage of the secondary prevention, regarding complications and consequences of the burns, was dependent on us or on our personal contacts with colleagues working in other surgical departments of the district.

As the result of all the realized arrangements and measures, the total number of burn injuries has been continuously decreasing (according to data of the hospitalized patients).

Based on our results, our approach to problems of the prevention of the burn injuries, its systematics and classification, seems to be fully justified.

M. T.

SUMMARY

An international cooperation in prevention of burn injuries is a relatively new feature of the contemporary medicine. A participation of the socialistic countries is very active in this respects, as their own system of the health care is of a preventive nature.

The statistical data serving as a basis of the preventive programme are presented by the author. The distinct systematics of the preventive measures is a prerequisite of the susccessful prevention. A classification of measure used for prevention of burn injuries is suggested by the author. A decreasing tendency revealed in incidence of the burn injuries requiring hospitalization of the patients was considered to be the result of our investigation and of its practical application.

RÉSUMÉ

La prévention des brûlures

Trošev, K.

La coopération internationale quant à la prévention des brûlures n'est qu'un phénomène relativement nouveau. Les pays socialistes y participent trés activement.

Le programme de la prévention se prépare sur la base des données statistiques préalables, qui sont citées par l'auteur. Il est nécessaire de faire la systematisation précise des mesures prises à propos de la prévention, pour qu'elle soit éfficace. L'auteur propose la classification des mesures de la prévention pour éviter des brûlures. L'existence des brûlures qui exigent l'hospitalisation est diminuée grâce à cette recherche et son utilisation pratique.

ZUSAMMENFASSUNG

Prävention der Verbrennungen

Troschew K.

Die internationale Zusammenarbeit in der Prävention der Verbrennungen ist ein verhältnismässig neues Phänomen. Die sozialistischen Länder beteiligen sich an ihr sehr aktiv, da das sozialistische Gesundheitswesen einen präventiven Charakter hat.

Das Programm der Prävention wird auf Grund vorhergehender statistischer Daten zusammengestellt, die der Autor anführt. Damit die Prävention erfolgreich ist, müssen die präventiven Massnahmen klar systemisiert werden. Der Autor schlägt eine Klassifikation präventiver Massnahmen vor, die das Entstehen von Verbrennungen verhindern sollen. Die sinkende Tendenz im Vorkommen der Verbrennungen, die stationäre Behandlung erfordern, ist das Ergebnis der durchgeführten Forschung und ihrer praktischen Ausnutzung.

RESUMEN

Prevención de las quemaduras

Trošev, K.

La cooperación international en la prevención de las quemaduras es un hecho relativamente nuevo. Los países socialistas participan en ella activamente, ya que la salud pública en los países socialistas tiene carácter preventivo.

El programa de prevención se establece en base a los datos estadísticos corrientes, presentados por el autor. Para que la prevención pueda tener éxito es necesario sistematizar con claridad las medidas de prevención. El autor propone clasificar las medidas preventivas que impiden las causas de las quemaduras. La tendencia decreciente en los casos de quemaduras que requieren tratamiento en hospitales es el resultado de investigaciones realizadas y de su aprovechamiento práctico.

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RECONSTRUCTION OF A METATARSEAL BONE BY AN ALLOGRAFT IN THE CASE OF OSTEOBLASTOCLASTOMA (Long-term results)

Z. V. BAZILEVSKAYA

In the case of osteoblastoclastoma, the first metatarsus on the left foot was reconstructed thirteen years ago. The long-term results of the operation will be now reported.

The patient V., 27 years old, was operated on 13 years ago (Febraury 4, 1965). The diagnosis was tumor of the foot. The first metatarseal bone was totally surgically exstirpated and then substituted by an allograft, i. e. by another first metarsus preserved in —35 ^{0}C for 26 days. The capsules and ligaments belonging to the surrounding joints were fully reconstructed. During the time of four months after the operation, the patient could move around having a circular plaster bandage and being supported by crutches.

The result of patho-histological examination of the exstirpated metatarseal bone: nodes of the neoplastic tissue were formed by two types of the cells — small ones, slightly elongated and large ones (giant), multinuclear. In the epiphyses lacking the nodes, the osseous trabeculae were rarified. In the vicinity of the rarified cortical layer, newly formed osseous trabeculae covered by osteoblasts were seen around the nodes. The remaining parts between the nodes were filled with fibrous tissue diversified by many empty spaces. Conclusion: osteoblastoclastoma. The X-ray visualized changes are shown on Fig. 1.

The postoperational period elapsed without complications. The patient V. returned to her original work (a nurse in a hospital) six months after the operation (Figs. 2 and 3).

She was found quite healthy and having no complains, when examined 13 years after the operation. The left foot, which was operated on, shows neither anatomical nor functional differences from the normal right one. She wears normal shoes.

In our opinion, the special features of the operation consisted in the choice of the graft in respect to the anatomical parameters, in reconstruction of the capsulo-ligamentous apparatus (its remnants on articular ends of the graft were used beneficially), in a good consolidation and fixation of the graft in its bed, in aseptic healing of the wound and in preservation of the graft in almost

optimal conditions, as has been indicated by Imamaliev (1970), whose experience was based on evaluation of many experimental data.

M. T.

SUMMARY

The good anatomical and functional results of the alloplastic reconstruction of the first metatarseal bone exstirpated due to osteoblastoclastoma, were described. The operation was performed 13 years ago. The woman is healthy and can work.

RÉSUMÉ

Le remplacement de methatarsus par une greffe allogéne chez le client avec l'osteoblastoklastom (Les résultats de long durée)

Bazilevskaja Z. V.

On a décrit de bons résultats anatomiques et fonctionnel aprés la reconstruction alloplastique du methatarsus premier qui était extirpé a cause de l'osteoblastom. L'opération fut réalisée il y a 13 ans. La femme est saine et elle travaille.

ZUSAMMENFASSUNG

Ersatz des Metatarsus durch ein allogenes Transplantat bei einem Patienten mit Osteoblastoklastom. (Langzeitige Ergebnisse)

Bazilewskaja Z. V.

Wir beschrieben gute anatomische und funktionelle Ergebnisse nach alloplastischer Wiederherstellung des ersten Metatarsus, der wegen eines Osteoblastoklastoms exstirpiert wurde. Die Operation wurde vor 13 Jahren durchgeführt. Die Frau ist gesund und arbeitet.

RESUMEN

Sustitución de metatarso con un transplante alógeno en pacientes con osteoblastoclastom. (Resultados a largo plazo)

Bazilevskaja Z. V.

Hemos descrito los buenos resultados anatómicos y funcionales luego de reconstrucciones aloplásticas del primer metatarso, estirpado luego de un osteoblastoclastom. La operación fue realizada hace 13 años. La mujer de referencia es sana y puede trabajar.

REFERENCES

Imamaliev, A. S.: Preparation and Preservation of Tissues Constituting a Locomotor System. (In Russian.) Meditsina, Moscow 1970, 148 pp.

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NEWS

An artificial hand with a sense of touch

Brisbane, Australia. — An artificial hand with its own sense of touch, developed at the University of Queensland, Australia, is ready for production.

This follows six years of research, including study with Canadian scientists, and six months testing on two amputees.

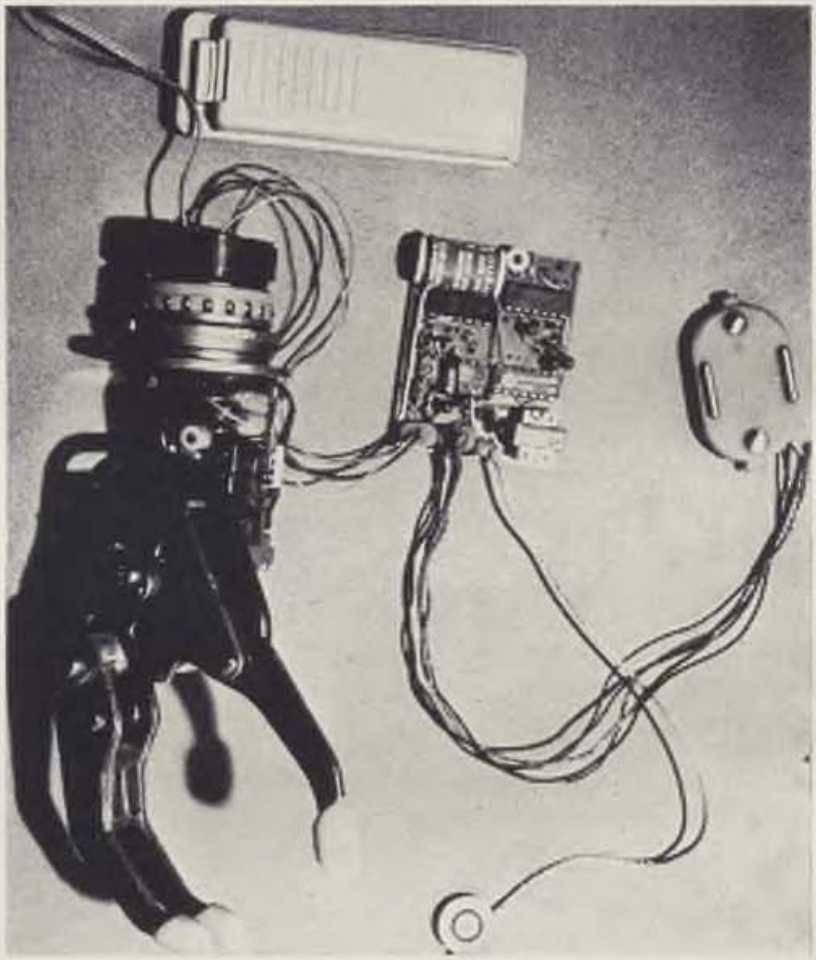

Fig. 1. — An Artificial hand with its own sense of touch developed at the University of Queensland in ready for production. The hand covered with lifelike plastic skin, harnesses the body's natural electrical signals to provide control, a strong grip and — most remarkably — a sense of feel. The device is compact, weighs about the same as an adult forearm, contains no strains of harness, and can be slipped on or off the stump in a few seconds. Attached to the hand is the battery, bottom right above it, the electronic control mechanism; at left, the electrode which picks up signals from the muscle and, at top left, the electrode which provides stimulus to the skin.

Australian Information service — Health — Instruments and Equipment

The invertor is Dr Gerald F. Shannon, a senior lecturer in electrical engineering at the university.

Dr Shannon said the hand, which had been improved since the prototype was made in 1976, cost about $ A 2000.

The hand, covered with lifelike plastic skin, harnesses the body's natural electrical signals to provide control, a strong grip and a sense of feel.

Fig. 2. — Dr Shannon and University of Queensland autor in social work, Mr Hyung Skik Kim who lost his arm in the Korean war as a child of six, celebrate the launching of the new electronic arm

The device weighs about the same as a average adult forearm, has no straps or harness, and can be slipped on or off the stump in a few seconds.

Dr Shannon said that limbs operated by muscle electricity with sensory feed back should become the standard fitting for all amputees.

About 20 years ago scientists realised that the brain's continuing ability to give commands to a non-existent hand, together with the natural electrical potential of the human body, could be combined through electronics to produce a myo-electric (muscle-electric) system of power for artificial limbs.

Myo-electric hands and arms have been produced (mainly in the Federal Republic of Germany after development in the Soviet Union and the United States) and are in limited use throughout the world.

However, wearers of the myo-electric limbs complained that the soft rubber hands destroyed the sense of touch that was possible with the older hook system. They said they could tell when the hook had reached an object by the click of metal as it came into contact with, for example, a pencil or doorknob.

With the myo-electric hand, there was no sound of contact and the hand often hid a small object from view, making it difficult to pick up.

In 1974 Dr Shannon went to the University of New Brunswick in Canada and worked on the problem with Canadian scientists.

They fitted minute strain gauges to the artificial fingers so that information about the gripping force of the hand could be conveyed by battery-powered electronic circuits back to sensors on the stump of the amputed arm.

These messages — tiny electrical charges acting on the human skin-varied in frequency with the strength of the grip. Consequently, the brain could tell what the artificial hand was doing.

The new myo-electric hand operates only the thumb and first two fingers. It consists of a fibreglass moulded tailor-made hollow forearm which contains the sensors at the stump end and the electronic circuitry and battery, and then the hand.

The hand is made of soft plastic and covered with a glove which can be made to match the wearer' skin texture and colour.

The wearer is able to sense contact by minute electric impulses which cause a sensation on the skin around the stump similar to light painless pin-pricks. When the grip on the object is tight, 10 impulses a second prickle the skin. This frequency gradually becomes less as the grip relaxes, down to the rate of one a second with the lightest touch.

NEW BOOKS

E. Panieva-Kholevitch: **Reconstructive Surgery in Flexor Sinew of Hand.** Medicina i fizkultura. Sofia, 1977, 150 pp.

Problems dealing with reconstruction of injured sinews in flexors of fingers mainly in the sphere of synovial vaginas and aponeurotic ligamentum rank among the most topical problems of surgery of hand, we have at present.

Unfortunately, this significant problem is not yet solved. Relatively recently, Japanese surgeon Suzuki (1971), evaluating the treatment results in 134 patients (1962—1969) with injured sinews of hand flexors when autoplasty was carried out, stated that only 33 % of patients were satisfied with operational results.

Bunnell (quot. V.D. Tchaklin, 1964) performed tenolisis in 41 % of patients after 3000 reconstructive operations in sinews due to difficulties after secondary healing of wound. It is visible reoperations and tenolisis play significant role in surgery of hand sinews. Lot of patients lose the contacts with their surgeon because they found the operation unnecessary.

An operation which divides the moment of reconstruction of sinews into 2 periods was highly esteemed by surgeons, especially bulgarien, who consider it one of few measures preventing post-operational concretion. On the basis of rich clinical experiences proving that sinew transposition is undoubtedly better than sinew plasty, famous bulgarien traumatic surgeon E. Panieva-Kholevitch (1965) proposed her original method of reconstruction of deep flexor when both flexors are injured in the sphere of osseous fibrous canals of fingers and she called it two-period sinew plasty.

This method was followed by experts in the author's country as well as abroad (T. P. Rozovskaja, V. V. Tchaplinskij, Arakaki, Biro, Chaplin, Chong, Kessler, Pernet, etc.). Rich factual material appeared which necessitates analysis, generalization and systematization. It would help surgeons, orthopedists, traumatic, surgeons and other specialists to be acquainted with various methods of reconstruction of sinews in deep hand flexors, especially with that of author's of this monography.

That is why we have to greet the book of prof. E. Panieva-Kholevitch „Reconstructive Surgery in Flexor Sinew of Hand" reflecting rich personel material of the author and latest information on this question in literature.

The book is completed with lot of pictures (coloured included), tables and schemes. It consists of introduction, short information on history, experimental and clinical part, summary and literature.

Work of E. Panieva-Kholevitch touched nearly all kinds of problems dealing with the treatment of injured sinews of hand flexors. It is pleasure to declare, famous and esteemed orthopedist and traumatic surgeon expressed her opinion on general and individual problems of reconstruction of deep hand flexors in so called critical zone.

In experimental part the author revealed a lot of interesting facts; post-operational concretion of transplant with surrounding tissue is shown in all 3 sets of experiments — autotransplantation according to Bunnell, transplant on leg and transposited sinew. But the character of concretions is different. In clear plasty the concretion appears mainly in the surroundings of sutures (in proximal and distant ends of transplant) and in plasty of transplant on leg and in transposited sinew — in distant

end of transplant. Possibly some failures of reconstruction of sinews in hand flexors are explained by the existence of concretion in the zone of contact of sinew proximal end with transplant.

Author's research of cultivation of fresh and conserved embryonal sinews is of interest. E. Panieva-Kholevitch revealed explants of sinews conserved in protein hydrolyzate in temperature of —4 °C have the ability of cell proliferation.

Clinical part of the monography is based on high number of observations proving that the method of two-period sinew plasty is well-founded as well as its using. The operation itself is profoundly described as well as its reasons and indicators. Very positive is the fact that E. Panieva-Kholevitch made analysis, generalizations and arranged the material according to favourable and unfavourable factors, existence or non-existence of affection of several sinews, nerves, joints and vessels, as well as according to age and sex of patients. Works dealing with the treatment of affected hand sinews rarely take into consideration the mechanism of trauma, state of hand and fingers in the moment of injury for further solving but author of this monography made it profoundly enough. A practitioner can draw a lot of important information out of this material for good understanding of the mechanism of sinew injury and pathogenetic treatment.

Parts, dealing with primary sinew suture are read with great interest. This part deals with questions of surgeon's tactics in case of sinew injury in one of 6 zones, according to the author's division. Practical recommendations are very important and a clinical phsysician is given new modern knowledge.

Imperfections of this monography are not serious; they deal with the quality of some pictures. For instance, pictures n. 22, 256, 33a, 39b are not good enough, contours not clear.

Literature includes unfortunately just works up to 1970.

Imperfections, mentioned above do not decrease the scientific and practical importance of this monography. Generally, it is written on contemporary level and read with great interest. In conclusion there is literature of hand surgery and summary in Russian and English.

This book is an important manual for doctors in practice: surgeons, traumatic surgeons and orthopedists.

Due to the fact that this book represents generalization of long-term clinical practice of E. Panieva-Kholevitch as well as clearly explains experimental research, at the same time it is of interest for scientists working in the sphere of this problem. Soviet doctors would be highly greatful to the state publishing house "Medicina i fizkultura" (Sofia) for the publication in russian.

Prof. N. P. Diemitchef, Astrakhan, USSR

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STOP FOR A MOMENT AND CONSIDER YOUR HEALTH

DAY AFTER DAY AND YEAR AFTER YEAR YOU ARE CONSTANTLY CHASING SOME AIM OR ANOTHER, YOU STRETCH THE MAINSPRING OF YOUR HEALTH TO THE VERY MAXIMUM. AND HOW LONG DO YOU THING YOU CAN CONTINUE TO DO SO? REMEMBER THAT YOU HAVE ONLY ONE HEALTH AND FINALLY MAKE UP YOUR MIND TO GRANT IT, AT A VERY REASONABLE PRICE, WHAT IT DESERVES: COMPLEX TREATMENT AT ONE OF THE OLDEST AND THE MOST WIDELY RECOGNIZED SPAS IN EUROPE.

CZECHOSLOVAK SPAS — OASES OF HEALTH,
QUIET AND INSPIRATION

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