ACTA CHIRURGIAE PLASTICAE

INTERNATIONAL JOURNAL
OF PLASTIC SURGERY

19 · 1

1977

CS ISSN—0001—5423

AVICENUM - CZECHOSLOVAK MEDICAL PRESS
PRAGUE

Exclusive Distributors for all Western Countries
KARGER-LIBRI AG, Petersgraben 31, CH-4000 Basel 11 (Switzerland)

Published four times (in 1959: two times) a year by Avicenum - Czechoslovak Medical Press, Malostranské nám. 28, Praha 1. Editor in Chief Prof. H. Pešková, M. D.; Deputy of Editor in Chief Prof. V. Karfík, M. D. — Address of the Editorial Office: Acta Chirurgiae Plasticae, 120 00 Praha 2, Legerova 63, Czechoslovakia. — Press: Středočeské tiskárny, n. p., provoz 01, Hálkova 2, Praha 2

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CZECHOSLOVAKIA

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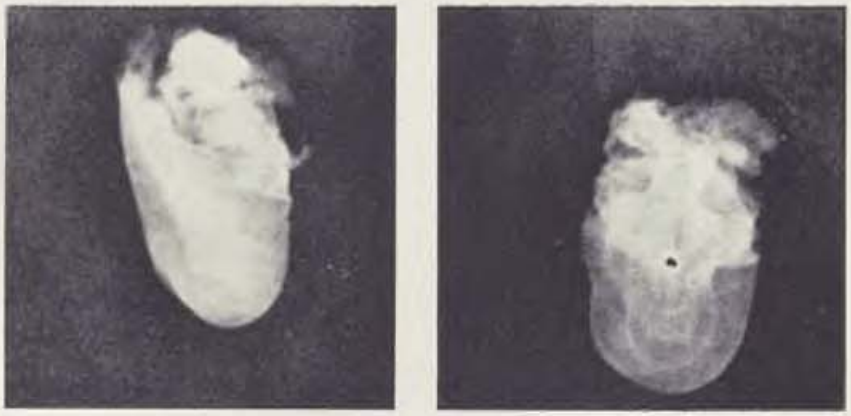

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Charles University, Medical School of Hygiene, Prague (Czechoslovakia)
Department of Plastic Surgery,
Head: Prof. M. Fára, M. D., DrSc.

MEDIAL CLEFT LIPS

M. FÁRA

Unlike t y p i c a l facial clefts (i. e. unilateral or bilateral cleft lip, alveolus and palate), a t y p i c a l facial clefts (i. e. medial, oblique and transverse) are relatively rare. This is made clear even by the number of cases treated at the Department of Plastic Surgery in Prague: out of 7000 cases of cleft, medial facial cleft (i. e. cleft lip or nose) was seen in only 50, including 25 cases of lip affection), oblique cleft in 21, and transverse cleft in 62 patients.

Ever since F. Burian wrote his now classical monograph "Rare Congenital Deformities of the Head and Their Treatment" (Burian, 1957), a number of other works have appeared to deal with atypical clefts. Their main asset seems

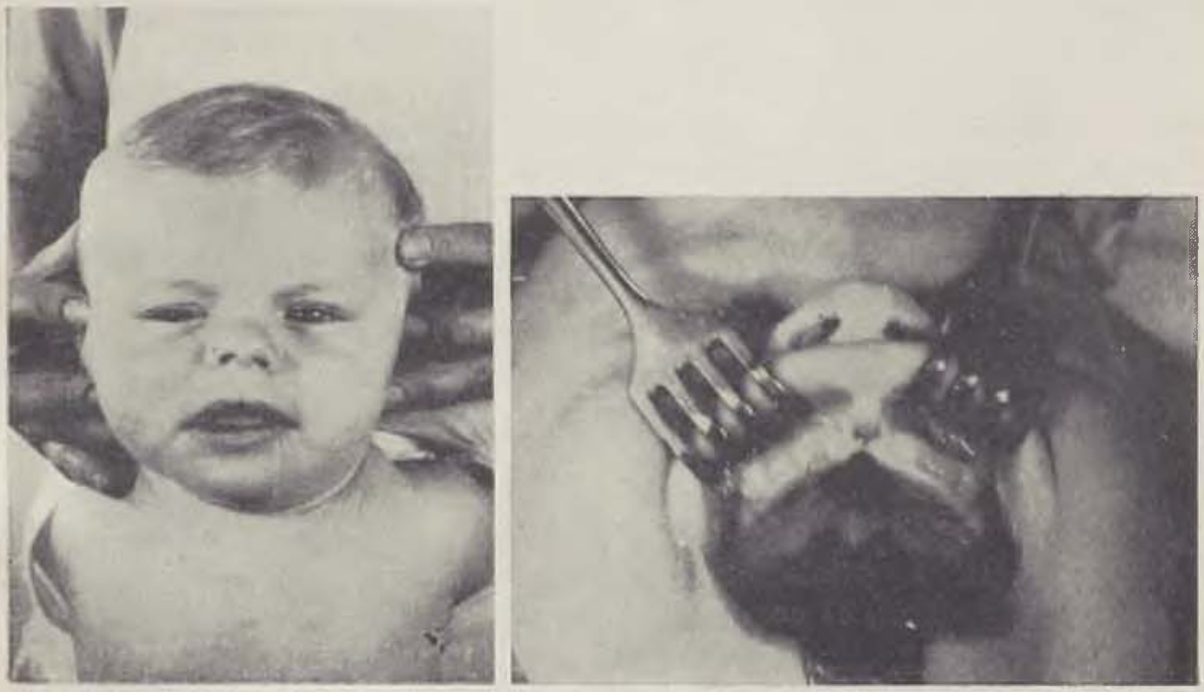

Fig. 1+2. Pat. S., cl. n. 53 684 — Medial cleft lip indicated.

to be that they explain (albeit not entirely uniformly) the embryogenesis of atypical clefts, and also that by publishing their own therapeutical experience, the authors make easier other surgeons' choice of procedure in coping with what usually are quite isolated cases of defects so rare.

Defects in the medial line of the lip occupy a special position among atypical clefts a) because they vary considerably, ranging from barely indicated microforms up to cases of holoprosencephaly accompanied by grave

Fig. 3. Pat. B., cl. n. 11 670 — Incomplete medial cleft lip.

cerebral affection and incompatible with life, and b) because the systematics of medial clefts are often confused as a result of the inclusion of even obvious pseudoclefts such as have no embryogenetic connection with the medial clefts proper and, consequently, call for a different therapeutic approach, too.

SYSTEMATICS

Proceeding from an anatomical analysis of our own cases as well as from clinical-therapeutical requirements we prefer to classify medial cleft lips as follows:

A. True clefts

1. medial cleft lip passing on into the medial groove in the alveolus: a) indicated, b) incomplete, c) complete

2. medial cleft lip branching off sideways in the vestibule and bilaterally separating a certain portion of the alveolus

3. medial cleft lip combined with medial nasal cleft

4. broad defect of the whole medial segment and the palate, mostly combined with grave developmental damage to the rest of the face and the brain.

B. Pseudoclefts

1. medial pseudoclefts due to the medial part of the outer vermilion portion of the lip being constricted by a powerfully-developed medial frenulum. This is usually found in the orofaciodigital syndrome, but also in isolated cases.

2. atypical bilateral cleft imitating the medial cleft in that the prolabium is extremely hypoplastic and in that the two clefts approach each other towards the alveolus sometimes even coalescing and merging in the medial groove in the alveolus.

Fig. 4

Fig. 4, 5+6. Pat. D., cl. n. 29 215 — Complete medial cleft lip.

Fig. 5

Fig. 6

EMBRYOPATHOGENESIS

Structures of the medial part of the face develop from the non-paired frontal process. Paired nasomedial processes proceed from both sides towards the middle and downwards by means of the mesodermal infiltration process to reach the pre-existent ectodermal plate, growing over and across the frontal process and showing a significant capacity for growing into medial facial structures, which they permeate. At the same time, while growing in the forward,

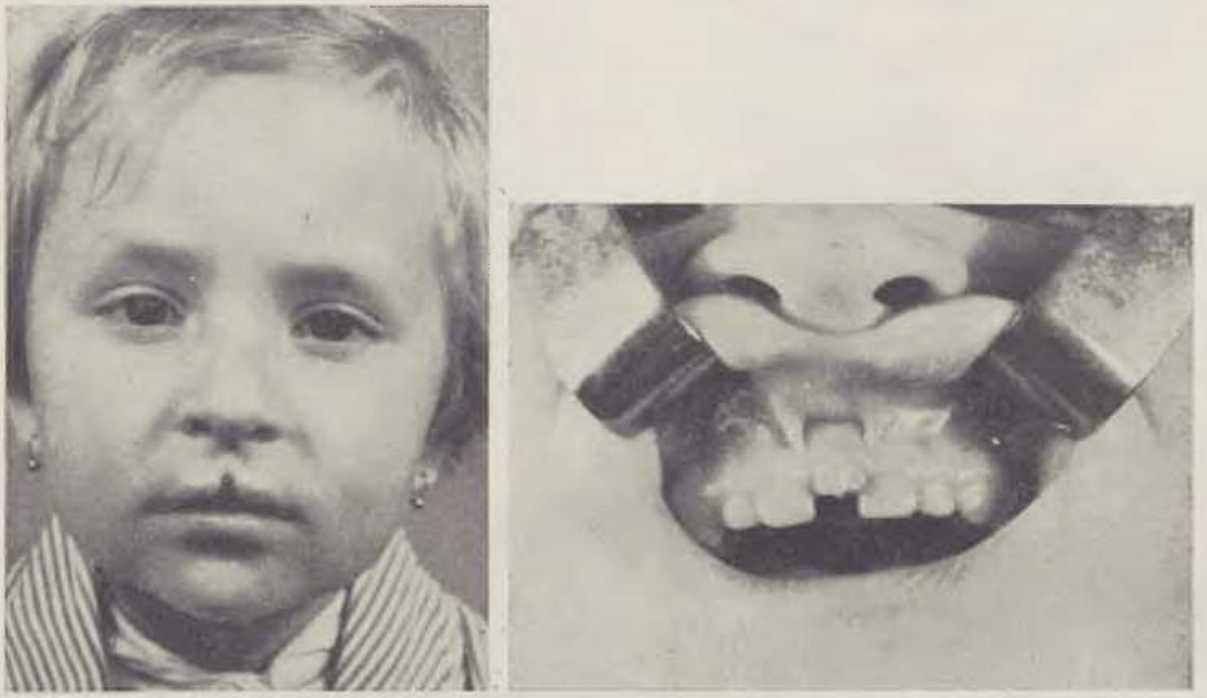

Fig. 7+8. Pat. M., cl. n. 45 122 — Medial cleft lip branching off sideways in the vestibule and splitting bilaterally the medial part of the intermaxilla with an additional large incisor.

downward and medial directions, they tend to coalesce, obliterating the prominence of the frontal part in the process. Of equal significance as the above-mentioned progress of growing nasomedial masses and ectodermal residua obliteration is the support given to the preexistent ectodermal walls by mesodermal infiltration. In case this process is interfered with, a cleft is bound to develop due to the failure of the relevant part being adequately strengthened by mesoderm.

OCCURRENCE

Medial clefts of the lip are a rare variety of clefts. Davis was able to find merely 5 such cases among 688 facial clefts (=0.73%), (Davis, 1935), Fogh-Andersen only 15 out of a total of 3,940 (=0.43%), (Fogh-Aandersen, 1965), our own group of 25 cases representing 0.36% of all the clefts treated in our Department in Prague.

According to general belief, there is no sex-linked difference in the rate of those affected. This seems to be corroborated by our own experience involving a ration of 12 boys to 13 girls.

Familial occurrence is extremely rare.

Chromosomal deviations can be found in some of the severest defects of medial facial structures combined with cerebral malformations.

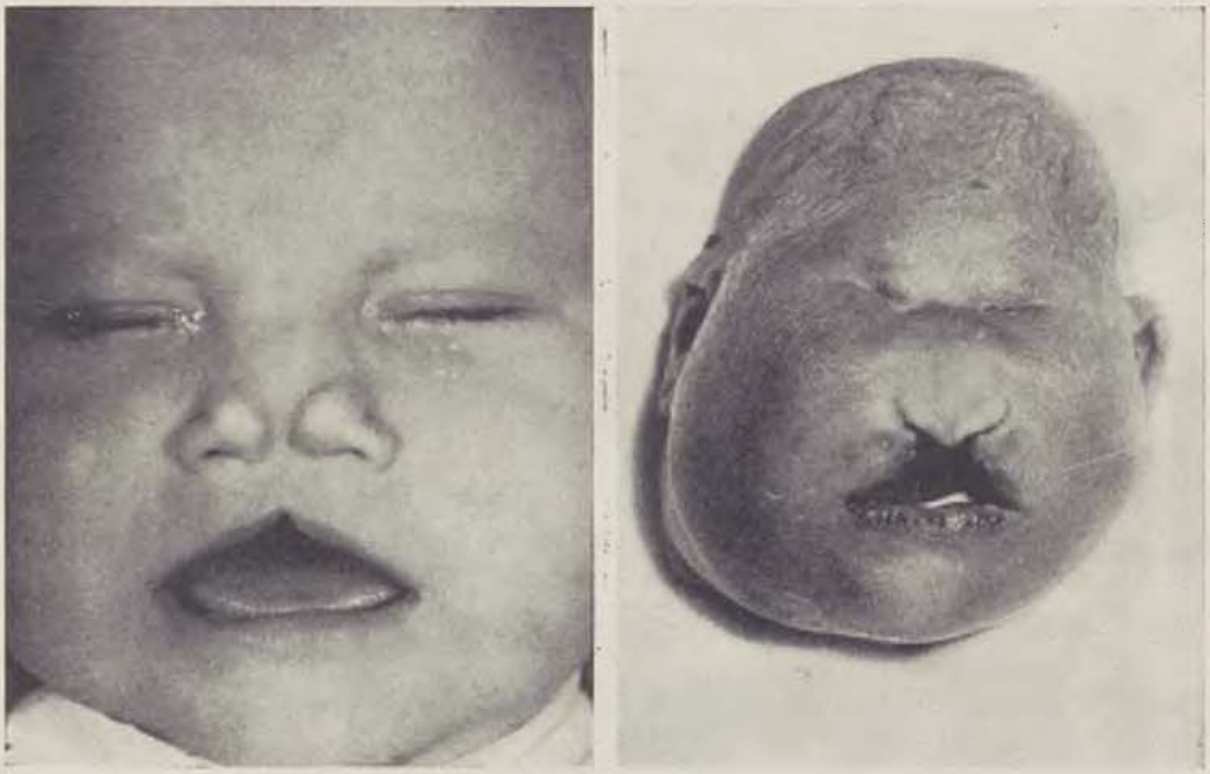

Fig. 9. Pat. T., cl. n. 24 467 — Medial cleft lip combined with medial nasal cleft. — Fig. 10. Neonate M., — Wide defect of the whole medial segment of the lip and palate, combined with major developmental deformities of the rest of the middle and upper portions of the face, and with holoprosencephaly.

One third of our cases was accompanied by concomitant anomalies, most of them affecting the extremities, mainly in the shape of syn- or polydactyly. In isolated cases nasal dermoid cyst, fibroma obliterating nasal airways, coloboma of the eye-lids, and oesophagenal anomaly were also encountered.

TREATMENT

The therapeutical procedure is based on the same principles as that used in typical cleft lips. The severest forms are to be operated on at the age of about 6 months, incomplete cases later on. Skin suture with the arch of Cupid reconstruction poses little difficulty even in the more severe forms. However, in view of the subsequent development of the lip and jaw we regard as important:

a) physiological reconstruction of the m. orbicularis oris by severing its atypical cranial insertions from the maxilla where muscular fasciculi turn to in even incomplete cases along the cleft, and by joining them "end-to-end" (Fára, 1968), and further

b) careful elimination of the above mentioned single or double firm fibrous insertion to the alveolus.

In pseudoclefts the shortened frenulum is to be eliminated soon after birth in order to loosen the pull of the constriction in the middle of the red

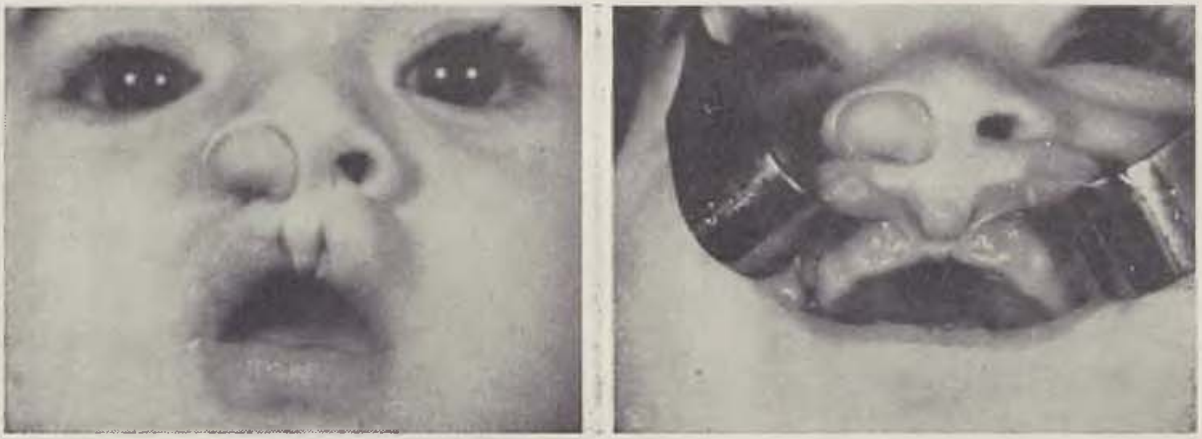

Fig. 11+12. Pat. B., cl. n. 69 711 — Medial pseudocleft due to construction of the medial portion of the vermilion outer part of the lip by powerfully developed deep-seated frenulum.

outer part of the lip, thus levelling up the groove. Unless the operation is performed in the first months of life, the development of the lip and the alveolar arch is impaired and correction becomes more difficult.

On the other hand, in holoprosencephaly cerebral anomaly as a rule will not permit the child to survive the age of one year and therefore there is no need to hurry up with the operation.

DISCUSSION

Simple clinical investigation is bound to reveal whatever medial clefts of the lip there are already immediately after birth. Just as in typical clefts, so in the case of atypical clefts a plastic surgeon's advice ought to be sought as soon as possible as he will arrange whatever preoperative preparation is needed, perform the surgical operation and conduct the follow-up care. This is also the best way of preventing the risk of a true medial incomplete cleft being mistaken for a medial pseudocleft, one which is due to the mere pull of the considerably shortened hypertrophic frenulum where correction is necessary during the very first weeks of the child's life.

An important part of surgery for medial cleft lip involves, in our view, the reconstruction of the orbicular muscle of the mouth by severing the fasciculi of the m. orbicularis oris turned upwards along the cleft, and their

"end-to-end" suture. Aesthetic as well as functional results are much more satisfactory if the above procedure is followed than if the muscles are sutured in their anomalous condition.

While typical clefts run along what would normally be the filtral crista, which is missing here, medial clefts involve the filtrum being split medially with the cristae preserved at the edge of either of its halves, and that even

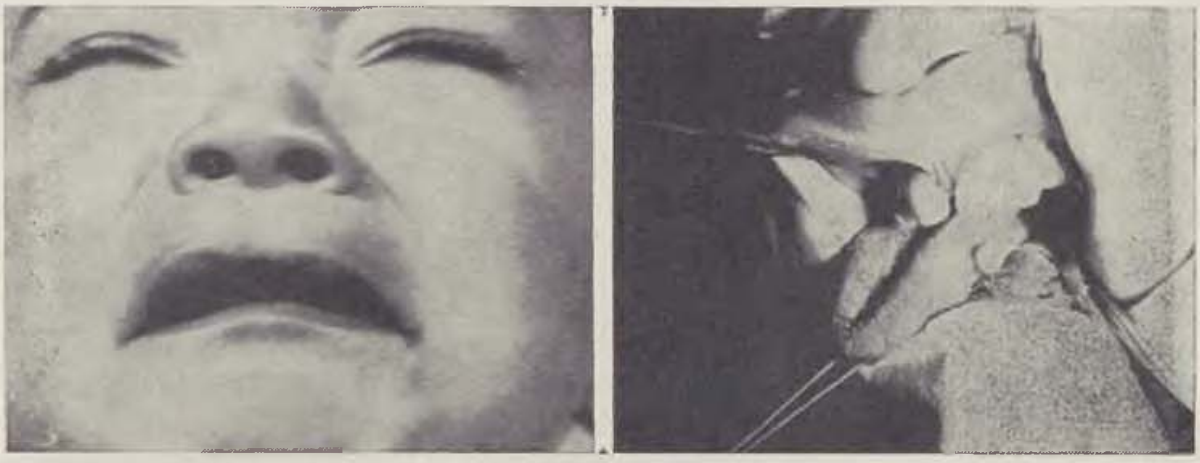

Fig. 13+14. Pat. S., cl. n. 37 266 — Atypical bilateral cleft imitating medial cleft by the prolabium being extremely hypoplastic and by the two fissures converging considerably towards the alveolus. Combined with fibroma of right nasal airway.

in cases of the complete form of the defect as can be seen in all of our photographs.

This is not the case of the defect of the whole medial segment accompanying holoprosencephaly or other grave disorders of cerebral development. It is to such severest forms of medial facial defects that maximum attention is devoted in literature although most of them are incompatible with life. This is obviously because such forms have received multiple and detailed attention in postmortems and also because they can be induced artificially in animal experiments. A teratogenic causative agent of holoprosencephaly is contained in a plant called veratrum californicum, and sheep reared in pastureland where the plant occurs bear holoprosencephalic young in considerable numbers. Alkaloids vinblastine and vincristine were successfully used experimentally to induce holoprosencephaly, medial cleft lips as well as other grave craniofacial deformities in rats (DeMyer, 1964).

It would, of course, be extremely difficult to think of any specific stimulus conducive to medial clefts in man and it is also for that reason that prevention of this rare congenital defect is out of the question.

J. H.

SUMMARY

25 cases of medial cleft lip, treated at the Department of Plastic Surgery in Prague, are used as a basis for discussion on problems of the systematics, embryopathogenesis, incidence and treatment of this rare form of facial defect.

Stress is laid mainly on the significance of an early diagnosis of medial pseudoclefts caused by the pull of a shortened hypertrophic upper lip frenulum, where surgery is needed soon after birth, and also on the importance of severing stumps of the m. orbicularis oris from their atypical attachments to the maxilla, turning them downwards and suturing them "end-to-end" in the reconstruction of the lip.

RÉSUMÉ

Fissures médianes de la lèvre

M. Fára

A la suite d'une analyse de 25 cas de fissure médiane de la lèvre traités à la clinique de chirurgie plastique de Prague, on a discuté les questions concernant la systématique, l'embryopathogénèse de l'existence et le traitment de cette forme du défaut facial étant assez rare. C'était surtout l'importance du diagnostic opportun de la pseudofissure médiane qui a été accentué. Celle-ci est causée par la traction du frenulum raccourci et hypertrophié de la lèvre supérieure qui doit être opéré vite après la naissance. D'une même importance est la séparation des tronçons musculaires de m. orbicularis oris de leurs insertions atypiques dans le maxillaire supérieur, leur abaissement et même la suture de l'un à l'autre en forme "end to end" dans la reconstruction de la lèvre.

ZUSAMMENFASSUNG

Mittlere Lippenspalten

M. Fára

Auf Grund der Analyse von 25 Fällen mittlerer Lippenspalte, die an der klinik für plastische Chirurgie in Prag behandelt wurden, diskutiert man die Fragen der Systematik, Embryopathogenese des Vorkommens und Therapie dieser seltenen Gesichtsdefektform. Hervorgehoben wird vor allem bei Bedeutung der frühzeitigen Erkennung der mittleren, durch Zug des verkürzten hypertrophischen Frenulum der oberen Lippe verursachten Pseudospalte, in welchem Falle bald nach der Geburt zu operieren ist, und ferner die Bedeutung der Abtrennung der Muskelstümpfe des m. orbicularis oris von ihren atypischen Ansatzpunkten an der Maxilla, ihrer Senkung und gegenseitigen End-to-end-Naht bei der Wiederherstellung der Lippe.

RESUMEN

Fisuras medias del labio

M. Fára

A base de un análisis de 25 casos con la fisura media del labio tratados ne la clínica de la cirugía plástica en Praga se discuten las cuestiones de la sistemática, de la embriopatogenesis de la incidencia y del tratamiento en esta forma rara del defecto de la cara. Se destaca sobre todo la importancia de una diagnosis temprana de la seudo fisura media causada por la tracción del frénulo recortado hipertrófico del labio superior, donde es necesario operar pronto después de nacerse el niño, y luego la importancia de la separación de los trozos musculares del m. orbicularis oris de sus inserciones atípicas al maxilar, la importancia de la inclinación y de la sutura de los mismos uno a otro en la forma "end to end" en la reconstrucción del labio.

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FACIAL DEFECT RECONSTRUCTION FOLLOWING RADICAL TUMOUR RESECTION

L. BAŘINKA

A plastic surgeon is extremely sporadically given the chance of reconstructing, as a secondary operation, an extensive defect in the face following a radical operation for tumour. An explanation and partial substantiation can be seen from the following:

1. Most of the extensive processes affect older patients over the fifth decade of life who are already wary of giving consent to complicated plastic reconstructions and prefer having their defects covered by epithesis (Fig. 1a, b).

2. It is a well-established clinical fact that malignant processes affecting patients under this age limit usually involve a very progressive form of malignant growth killing a large proportion of those affected before plastic replacement can be resorted to despite all available modern conservative and surgical treatment.

That is why our firm at the Department of Plastic Surgery in Brno have, over the past nearly thirty years of its existence, been able to perform complicated plastic reconstructions after radical facial tumour resections in only 15 patients.

Plastic surgery possibilities of covering extensive facial defects are essentially twofold:

a) transferring tissue in the form of a tubed flap from a remote area,

b) using local flap skin material from within the immediate vicinity of the defect and the surrounding area.

To serve the two methods of defect closure and plastic reconstruction we have developed a basic surgical procedure which, however, cannot be seen as an invariable direction.

Every patient will have different conditions to be taken into account and it is to those that the surgeon must adjust his intended line of procedure in

Dedicated to the 60th birthday of Prof. V. Kubáček, M. D., DrSc.

Fig. 1a: State after radical operation for spinocellular carcinoma. Maxillary defect approached by obturation prosthesis. — Fig. 1b: 65-year-old patient preferred epithesis to plastic surgery. The epithesis is fixed to glasses.

order to reach the desired effect and a satisfactory plastic replacement of tissue lost.

Our experience has made obvious the principle, according to which patients between the fifth and sixth decades of life should preferably have tissues transferred in the form of tubed skin flaps from remote areas of the body surface (Fig. 2b, c, 3b).

Patients over this age limit were rather designated for the use of local skin material from around the facial defect.

Due to its exacting and long-term nature skin flap plastic surgery may prove to be quite a burden for older patients and sometimes even endanger the success of the whole plastic reconstruction. Here we have in mind particularly the prolonged immobilization of the upper extremity in unfavourable positions in cases of tubed flap transfer. Last but not least, the method is likely to discourage the patient because of the need of long-term plastic corrections. A plastic reconstruction is aimed not only at an aesthetic replacement of the tissues lost but also has a considerable functional significance in closing denuded facial cavities. The patients very often suffer from chronic nasopharyngeal inflammations, particularly under adverse climatic conditions. For that reason, we resort to reconstructions primarily in terms of function and only then in view of aesthetic appearance. A similar function may be performed by a well-made epithesis. It is, however, a generally known fact that a permanent plastic

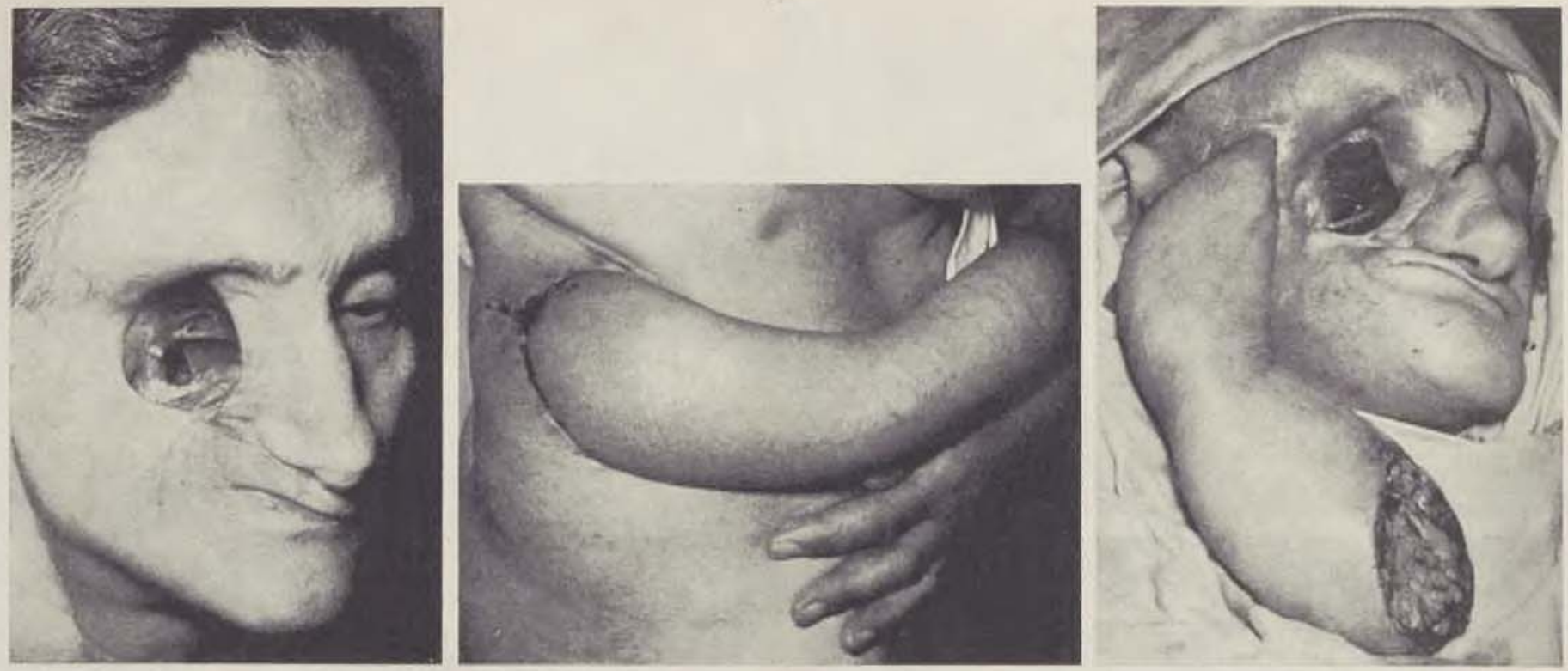

Fig. 2a: Defect in 48-year old woman after 5 years of follow-up prior to plastic surgery. Maxillary defect filled with obturation prosthesis. — Fig. 2b: A tubed flap from the abdomen transferred via the left forearm. — Fig. 2c: State after flap transfer with pedicle on the temple.

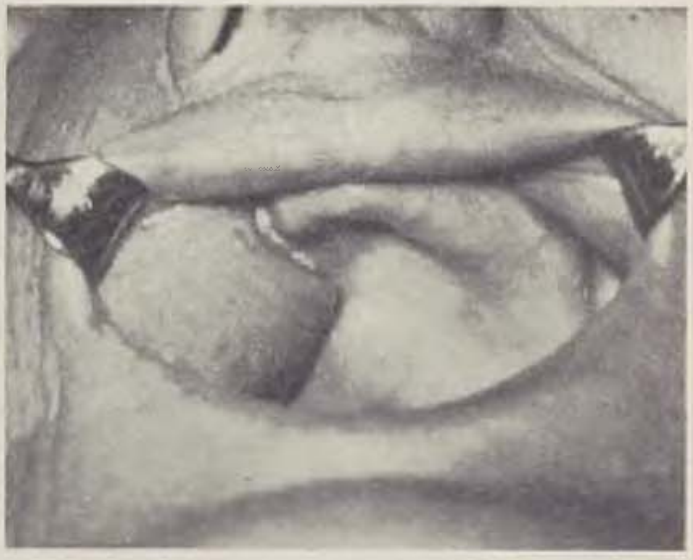

Fig. 2d: Flap implanted to the circumference of the defect. Nasal cavity closed by part of the flap healed into the nasal region, external cover created by rotating part of the flap with insertion in the temporal region as indicated by arrow. — Fig. 2e: Flap plastic fixation by implanting costal cartilage which is in contact with the nasal root and temporal bones. — Fig. 2f: Part of the flap obturating the maxillary defect.

Fig. 2g: Completed basic phase of flap plastic operation after two years prior to orbital fissure reconstruction. — Fig. 2h: Eye prosthesis inserted into reconstructed orbital fissure. — Fig. 2i: Final adjustment of orbital fissure performed by upper lid reconstruction using a flap from the neck.

Fig. 3a: Defect of right face after resection for spinocellular carcinoma in a woman of 45. — Fig. 3b: Replacement with tubed flap made 5 years after radical operation; circular line of the flap designates cover against nasal cavity. — Fig. 3c: Resulting condition of plastic reconstruction after 10 years.

Fig. 4a: Spinocellular carcinoma of orbital region in a 68-year-old woman. — Fig. 4b: 3 years after radical operation prior to reconstruction. — Fig. 4c: Pattern of reconstruction procedure: defect to be closed by attachment of an island flap from the face, outer cover provided by a flap rotated from the neck.

Fig. 4d: Nasopharyngeal cavity obturation using an island flap. — Fig. 4e: Rotation of neck flap with subauricular pedicle. Defect on the neck sutured after mobilization by means of direct suture.

reconstruction, albeit less perfect, is for understandable reasons much better than any epithetic replacement, however perfect it may be. Wearing an epithesis, it is hardly possible to avoid pressure sores on fine mucous membranes and, consequently, the irritation of tissues often already affected by exposure to therapeutical doses of X-rays. Sometimes, shrinkage of tissues or changes in the shape of contact areas may call for the making of a new epithetic replacement.

In contrast, it is easy for any patient to get used to a plastic reconstruction which is likely to become quite natural, functionally and aesthetically. One point to be stressed is that in skin flap plastic operations shrinkage of transferred tissue has to be taken into account. For that reason a tubed flap should be transferred in excess as shown in Fig. 2b and 3b. Tissue transferred in the form of tubed flaps calls for some sort of fixation mechanism to be placed above the facial defect, an effect achieved by implantation of some solid tissue. In our case part of a rib was used (Fig. 2e). In this way we can prevent soft tissue sagging and, at the same time, ensure the stability of the whole plastic reconstruction.

A tubed flap can be used not only to close facial defects, but also to cover palatal defects as in the case of one of our female patients (Fig. 2f).

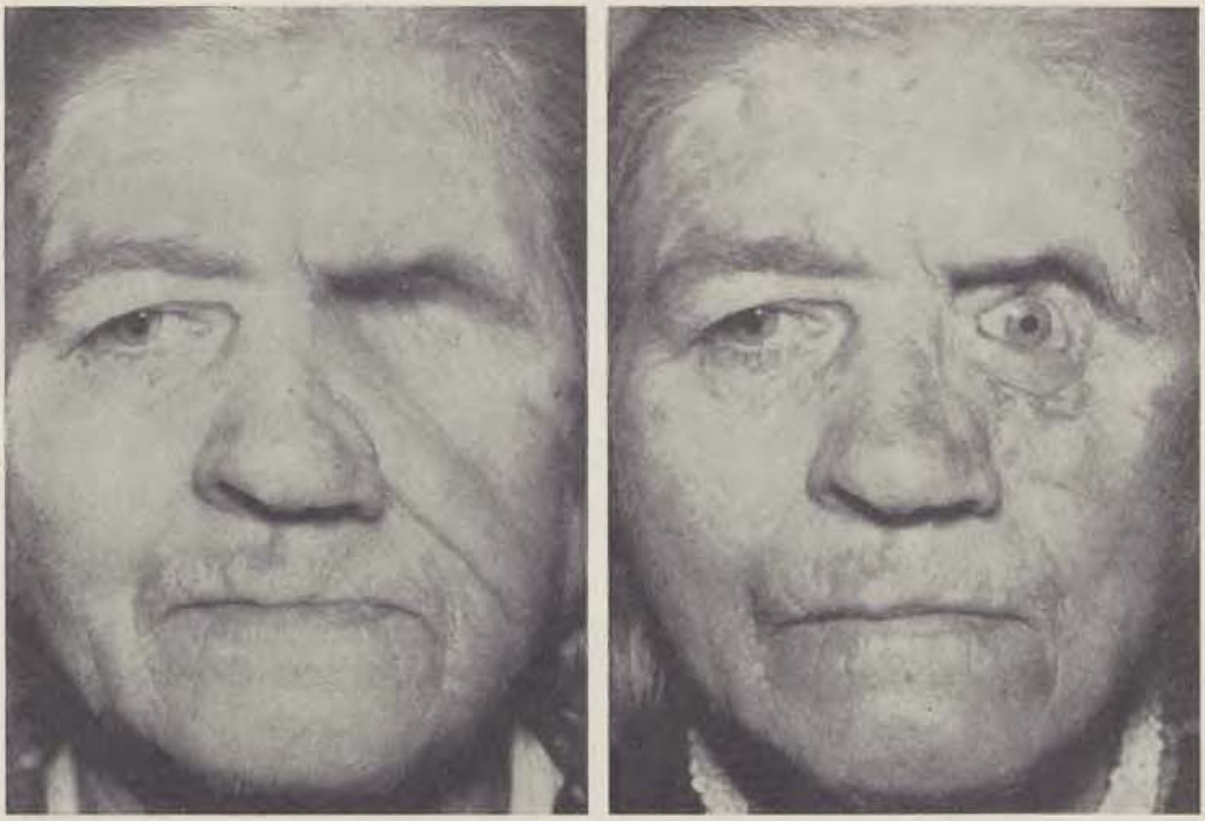

Fig. 4f: Condition 1 year after defect obturation. — Fig. 4g: Result after 5 years with eye prosthesis in reconstructed orbital fissure.

The uses of local material for facial defect closure and lost tissue plastic reconstruction are to a certain degree limited and directed for the most part to no more than the functional result as can be seen in Fig. 4b—g. A plastic operation, however, does have a certain advantage in that a transferred skin cover, unlike flap operations, is more perfect in preserving sensitivity and also the coloration and texture of the skin have a more natural appearance.

In a whole number of the techniques described above a plastic reconstruction of facial defects will, as a rule, be a success without attempting a reconstruction of the palpebral fissure for the wearing of an eye prosthesis. In some cases, the patient himself wishes to have even this plastic operation performed and, as the case of one of our own women patients suggests, it proved to be a success.

Prior to any complicated plastic reconstruction, the following principles are observed:

1. The operation is not undertaken until after 3 to 5 years from the radical treatment in order to avoid any possible relapse or covering an undesirable process by plastic surgery.

2. The patient should be kept under control all the time and any changes in tissues well observed. If the patient was operated on at a different surgical

workplace, the checking up should be performed jointly and so should the indication for reconstructive plastic operation.

3. The patient's general physical and mental condition should be kept as favourable as possible prior to the operation proper.

J. H.

SUMMARY

The possibilities are outlined of facial defect reconstruction using a tubed flap and local skin cover from the immediate vicinity of the defect. Reasons are given for the preferential wearing of epithetic replacement particularly in older patients over 60. Stress is laid on the rare incidence of such reconstructive operations in patients affected by malignant processes due to low survival rate in younger patients. This kind of reconstruction plastic operation was performed at the Department of Plastic Surgery in only 15 patients over a period of 30 years. Two techniques of plastic operation are listed with documentation of each of the stages of reconstruction.

RÉSUMÉ

Reconstruction des défauts faciaux restés après de résections radicales de tumeurs

L. Bařinka

Le travail présente la possibilité d'une reconstruction des défauts faciaux à l'aide de lambeau cylindrique avec une couverture locale cutanée prélevée du voisinage immédiat du défaut. On motive la préférence de se servir d'une prothèse de correction surtout chez les malades âgés plus de 60 ans. Telles interventions reconstructives sont très rares chez les malades atteints d'un processus maligne ce qui est accentué, parce que le pourcentage des patients qui survivent étant atteints à l'âge de jeunesse est très bas. A la clinique de chirurgie plastique on n'a fait cette plastie reconstructive que chez 15 patients au cours de 30 ans. Ici, deux modes de procédé sont présentés avec une large documentation des toutes les étapes de la reconstruction.

ZUSAMMENFASSUNG

Wiederherstellung der Gesichtdefekte nach radikalen Tumorresektionen

L. Bařinka

In der Arbeit berichtet man über die Möglichkeit der Wiederherstellung der Gesichtsdefekte mittels eines zylindrischen Lappens und lokaler Hautdeckung aus der allernächsten Umgebung des Defektes. Es wird die Präferenz des Tragens eines epithetischen Ersatzes besonders bei älteren Patienten oberhalb der Grenze des sechsten Jahrzehnts begründet. Hervorgehoben wird die Seltenheit dieser Wiederherstellungsoperationen bei Patienten mit malignen Prozessen infolge des niedrigen Überlebungsprozentsatzes bei Patienten, die von diesem Prozess im niedrigen Alter betroffen wurden. An der Klinik für plastische Chirurgie wurde diese Wiederherstellungsplastik im Verlauf von 30 Jahren bloss bei 15 Patienten durchgeführt. Es werden zwei Typen der plastischen Verfahren beschrieben und ihre einzelnen Wiederherstellungsetappen dokumentiert.

RESUMEN

Reconstrucción de los defectos faciales que quedaron después de las resecciones radicales de los tumores

L. Bařinka

En esta obra se presenta la posibilidad de reconstruir los defectos faciales por un lóbulo cilíndrico y por una cubierta cutánea local tomada de la vecindad próxima del defecto. Se despliega el por qué los pacientes prefieren llevar una prótesis de corrección, sobre todo los mayores de sesenta años. Se destaca la rara incidencia de estas intervenciones de reconstrucción en los pacientes con un defecto maligno porque el por ciento de la sobrevivencia de los pacientes afectados en su juventud es bajo. En la Clínica de la Cirurgíía Plástica en el período de 30 años se ha hecho la plastia de reconstrucción solamente en 15 pacientes. Se mencionan dos maneras de procedimientos de la plastia las que tienen documentación de todas las étapas de la reconstrucción.

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CHARACTERISTICS AND RESULTS OF PRIMARY PLASTIC OPERATIONS PERFORMED BY NEOPLASMS OF EYELIDS AND ORBIT

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In the therapy of eyelid neoplasms, irradiation or surgical methods are applied. Each of the methods possesses its positive and negative features. The radiation therapy may lead to development of cataract (Kozlova, 1956; Haike et al. 1954, etc.) and to late radiation ulcers (Zedgenidze et al. 1972, etc.). Some malignant neoplasms are resistant to irradiation (Hughes 1959, Haye and Calle 1970). In addition to it, a radical destruction of neoplasm by means of radiation therapy results in formation of a defect on an eyelid, which is very hard to recover. According to our experience, it is due to diminished regenerative capacity of the tissues. It is the reason, why surgical treatment of eyelid neoplasms is widely indicated in the clinical practice (Korolen 1950, Tomashevskaya 1957, Zaikova 1963, 1969, etc.). However, it was shown (Liberman 1963) that a non-radical excision of malignant tumor may be followed by relapse of the disease. In the case of a wider excision, a plastic operation is required, which may consist of many stages. Unfortunately, in majority of publications only different original methods of operations were described, without analysis of the results.

In order to estimate an efficiency of the surgical methods, we analyzed the results of primary plastic operations of the eyelids by 100 patients, operated on for tumors of the eyelids.

The number of patients with different diagnoses are indicated: angioma — 12, papilloma — 4, melanoma — 7, neurofibromatosis — 7, xanthelasma — 3, cancer of eyelids — 66, cancer of lacrimal vesicle — 1 patient.

Seventeen patients were operated in the age upto 14 years, 6 patients between 18 and 30 years and 77 patients between 31 and 70 years. The sample consisted of 44 men and 56 women. The children were operated under fluothane-oxagen anesthesia, the adults in the local anesthesia using 0.5—1.0 % solution of Novocain.

Localization and size of the tumors varied. The surgical treatment was often complicated by spreading of the neoplasm to the margin and to the

Tab. 1. Classification of the operated patients according to the periods of observation

Plastic techniques	Periods of observations (in years)						Total
	1/2—1	2—3	4—5	6—9	10—15	16—20	
Local plasty	12	10	9	3	6	2	42
Free transplantation of skin	2	2	—	2	—	1	7
Tubed flap on a pedicle	4	9	6	7	6	3	35
Acute flap	2	—	—	4	4	—	10
Tubed flap	—	—	—	3	3	—	6
Total	20	21	15	19	19	6	100

posterior side of the eyelid and even to the lacrimal vesicle. As a rule, the tumor was widely excised together with 3—5 mm of healthy tissue. The defect of the eyelid was subsequently repaired using one of the following plastic operations: plasties of local tissues (42 cases), skin flap on a pedicle (35 cases), free transplantation of the skin (7 cases) acute microflap (7 cases), acute flap (3 cases), tubed flap (6 cases). Totally, 166 operations were made on different stages of plastic reconstructions. Surface plasties were performed in 34 patients, the deep plasties in 66 patients.

The features of the primary plasty of the eyelids and orbit were analysed in respect to the late results. They were checked in periods ranging from 6 months to 20 years (see table).

The method of plastic operation was selected in dependence on localization and size of benign or malignant neoplasms on eyelids. If the skin layer was affected, the surface plasty was made. Spreading of the tumor to conjunctival and cartilaginous layers was an indication to the deep plasty. The most simple and expedient procedure was always chosen.

In the case of benign tumors of the eyelids the incision was made in the zone of the healthy tissue, 1.0—1.5 mm far from the margin of the tumor. Following excision of the large xanthelasmas of the eyelids, the skin on margins of the defect was widely mobilized. Thus, utilization of local tissue reserves enabled recovery of rather large skin defects of eyelids without deformation. The defect of eyelids remaining after excision of papillomas was covered by means of side-displacement of surrounding tissues of by a skin flap formed on the opposite eyelid. If the tumor was localized in the intermarginal region, then a partial wedege-shaped excision of the eyelid was made, followed by plastic operation according to Duverge and Werther.

A large pigmented naevus was excised thoroughly. A careful haemostasis was followed by immediate covering of the skin defect by the free skin graft. If the small rough pigmented naevus reached a margin of the eyelid, then a deep resection of this part of the eyelid was performed. The defect of the inner layer of the eyelid was covered by a mucosal autotransplant and the skin defect was substituted by a skin flap on a pedicle or by an acute microflap formed on the opposite eyelid. The acute microflap suggested by Zaikova

(1963), one of the authors of this paper, is a skin flap of the size 4.0—4.5×
×1.0—1.2 cm with a pedicle on the side turned to nasal or temporal region. According to our opinion, an important feature of this method is the fact that the flap bridges a corresponding commissure of the eyelid and is sutured to the margins of the eyelid defect. In the second stage of the operation, a microflap pedicle is resected. Using such a microflap, also deep defects of both eyelids were substituted, that resulted from partial resection of both eyelids. In the case of larger pigmented tumors of the eyelids requiring excision of bigger parts of the eyelids, a deep blepharoplasy according to Tomashevskaya was performed, i.e. the skin layer of eyelids was reconstituted by means of

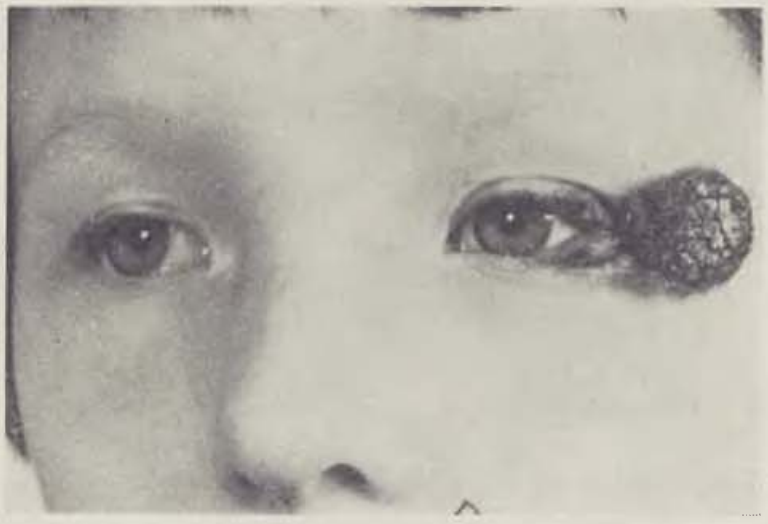

Fig. 1.: Patient Ts. Pigmented papillary naevus of the left eyelid

a skin flap formed in the temporal, frontal or facial region, and the conjunctival-cartilaginous layer was substituted by an autotransplant of a lip or cheek mucosa. In spite of the large complexity of the defect, the satisfactory results were obtained.

A concise history of one disease will serve as an example:

A patient Ts., 7 years old, came to the Clinic of eye diseases of the Medical Institute on June 12, 1973, with a pigmented papillary naevus on the left eyelid.

She was born with a dark patch in the region of the left external eyelid commissure, which increased in size during the time.

An examination of the lateral half of the eyelids revealed a haired and chapped, rough, dark-brown neoplasm of the size 2,0×2.5 cm. The tumor spread to the margin of eyelid and to the conjunctiva (fig. 1).

The operation was performed on June 23, 1973: subtotal resection of the left eyelids followed by primary one-stage plasty of both eyelids according Tomashevskaya, i.e. the lateral halves of the eyelids were excised as far as to the transitional folds. The defect of the size 3.0×3.5 cm was formed. The skin flap of the size 6.5×3.0 cm on a pedicle was formed in the temporal region

and sutured to the margins of the skin defect. The mucosal autograft taken from the lower lip, of the size 2.5×1.5 cm, was sutured to margins of the conjunctival defect (Fig. 2).

The stitches were removed 8 days later. The wound healed per primam. On July 7, 1973, the second stage of the plastic operation was performed: a correction of the eyelid and temporal regions, and a canthoplasty. The flap's pedicle covered by hairs was put back to the temporal region by means of excision and mutual translocation of two triangular skin flaps with angles

Fig. 2.: The same patient after the first stage of the plastic operation

equal to 45^0 and 55^0. Surplus subcutaneous fat tissue was removed. The margins of the inner and external layers of the eyelids were sutured together. The eyelids were fully reconstituted (Fig. 3).

No relapse of tumor growth was ascertained even after longer time periods in the operated patients.

Haemangiomas and neurofibromatosis of eyelids belong to progressing tumors of the eyelids. The features of surgical treatment were dependent on expression of the process. In early stage, the haemangioma was excised in the limits of the healthy tissues. Subcutaneous tissues were sutured using catgut stitches with the aim to block supplying blood vessels. Small skin defects were covered by local tissues or by skin flap on a pedicle. In the case of deep penetration by the growing tissue, both eyelids layers were excised and deep eyelid plasty was performed. Large cavernous haemangiomas of eyelids and orbit were tried to remove fully and in the same time the skin was maximally preserved by means of intracutaneous incisions above the angioma. The skin defect of the eyelids was mostly covered by the local tissues. It is interesting that satisfactory results were achieved in 7 patients operated in early stages of the disease. Five children with heavily advanced processes were also operated. However, further growth of angiomas could not be prevented and the patients had to be reoperated. It should be mentioned that in children of young age only malignant angiomas were observed.

Similar relationships were noticed in the surgical treatment of neurofibromatosis of the eyelids and orbit. The sooner the excision of the neurofibrome was made, the better were the results, while progression of the process was rather slow by all the patients. In the case of substantial enlargement of the eyelids, 9 deep resections of the eyelids were indicated together with various plastic operations, mostly with local plasties (Figs. 4 and 5).

Fig. 3.: The same patient after the plastic operation

Sixty six patients treated for cancer of the eyelids are of the special interest, according to our opinion. In all such patients, a total or partial resection of the eyelid was followed by a primary plasty. A surface plasty was performed in 18 patients, a deep plasty in 46 patients and an exenteration of the orbit in 2 patients. Even after 20 years since the operation, no relapse was observed. It is indicating that the tumor was removed in the limits of the healthy tissues. The incision was generally made in the healthy tissue 4—5 mm apart from the tumor. A localization and total size of the defect on inner and outer layers of the eyelids were considered in respect to selection of the method of the plastic operation. An autograft of the lip mucosa was usually used for substitution of the inner eyelid layer. The skin layer was recovered using one of the methods of blepharoplasty.

The surface defects of the eyelids were mostly covered by means of the local tissues, widely utilizing principles of the skin plasty according to Shimanovskyi (1865), the method of side-displacement and semilunar incisions according to Imre et al. The skin flap on a pedicle was formed on the opposite eyelid or, for covering larger surface defects, in the temporal, facial or lip-nasal fold regions. The skin flap excised in the eyelid region or on the inner surface of the shoulder, regularly was healed without subsequent scar formation and stable reconstitution of the skin defect of the eyelid took place. The deep defects of the eyelids, according to our opinion, are contraindications of the free-skin grafting.

A partial wedge-shaped resection of the eyelids was indicated, if the margin of the eyelid was affected. Deep defects of the eyelid were substituted by the local tissues or a partial deep plasty, utilizing a skin flap or an acute microflap, was performed. An application of the acute microflap prevented formation of a wound dehiscence in angles of the eye opening, thus improving a cosmetic effect of the operation.

Fig. 4.: Patient M. Neurofibromatosis of the eyelids
Fig. 5.: The same patient 6 years after operation

If the tumor invades the surrounding tissues, orbit and lacrimal vesicle, a great amount of viable material for plastic purposes is required. In such cases, a combinated one-stage method of Tomashevskaya was applied in order to cover large deep defects of the eyelids caused by resection of the tumor. The operation was performed in one stage. In dependence on the character of the deep defect, the skin flap on a pedicle was formed in the temporal, frontal, facial or lip-nasal fold region. A mucosal autograft was sutured to the margins of the conjunctival defect. In all 22 operated patients, a good cosmetic effect was obtained, although an operation correcting a region of a flap pedicle was later required. Such correcting operation could be avoided, when a plasty with a skin flap on covered pedicle with vessels, formed in the temporal region, is applied.

If an acute flap formed in the temporal region was used, also a wound dehiscence did not form between the transplant and the eyelid defect. A flap pedicle closed by 4—5 stitches was transformed into a tube, transferred to an eyelid defect as a bridge and sutured to its margins. In the second stage of the operation, a pedicle was cut off. This technique is especially indicated in large disseminated cancer processes.

An indication of a tubed flap of Filatov (1943) by tumors is rather rare, as this plastic operation consists of many stages. However, using this method additional scars on the face are not formed and attachment of the transplant is good. We performed a plasty of the eyelid affected with cancer in three stages, using the tubed flap. In the first stage, the tubed flap was prepared in the temporal region (Fig. 6). A resection of the eyelid was made 2—3 weeks later. A lip mucosal autotransplant was sutured to the margins of the con-

Fig. 6.: Patient C. before operation. Basal cell carcinoma of the lower eyelid
Fig. 7. The same patient 4 years after the operation

junctival defects and an upper pedicle of the flap, split and spread, was sutured to the skin defect. A lower pedicle of the flap was cut off or turned back to the temporal region in the third stage. The reconstituted eyelid was thinned out (Fig. 7).

According to our opinion, the absolute indications of the tubed flap plasty are:

1 — far progressed cancer of the lacrimal vesicle destroying inner walls of the orbit,

2 — old, large and deep defects of the eyelids and orbit, formed after excision of malignant tumors of the eyelids.

An analysis of the late results has shown that good cosmetic results were obtained in 9.5 % and satisfactory results in 5 % of all patients. A satisfactory cosmetic effect was observed in 5 patients with far progressed haemangiomas of the eyelids with progression of growth. A partial necrosis of the flap on a background of deep scars developed in two patients after preliminary irradiation.

SUMMARY

A primary plasty of the eyelids is widely indicated by both benign and malignant tumors of the eyelids. A method of plasty is selected in respect to

patient's age, size and localization of the defect and condition of the surrounding tissues. An individual selection of the plastic technique is prerequisite of the good result. The primary plasty of the eyelids enables wide and radical excision of a malignant tumor and prevents relapses in late periods of observation. A pronounced scar formation was not observed after the primary plastic operation. M. T.

RÉSUMÉ

Particularités et résultats d'une plastie primaire des paupières dans les tumeurs des paupières et de l'orbite

M. V. Zaykova, E. V. Koroleva

La plastie primaire des paupières possède une large utilisation dans les tumeurs soit bénignes soit malignes des paupières. On en choisit la méthode selon l'âge du malade, l'étendue et la localisation du défaut et même selon l'état des tissus voisins. C'est le choix individuel qui garantit un bon résultat. La plastie primaire rend possible de faire une large résection radicale de la tumeur maligne qui est en même temps une prévention des récidives tardives. Aucune cicatrisation considérable du tissu n'était remarquée après une plastie primaire.

ZUSAMMENFASSUNG

Besonderheiten und Ergebnisse der primären Lidplastik bei Tumoren der Augenlider und -höhle

M. V. Zajkowa, E. V. Korolewa

Die primäre Lidplastik findet eine breite Anwendung sowohl bei gutartigen als auch bösartigen Lidgeschwülsten. Die Wahl der Methode der Plastik hängt ab vom Alter des Kranken, der Grösse und dem Sitz des Defektes sowie vom Zustand der umliegenden Gewebe. Die individuelle Wahl der Methode ist die Garantie des guten Ergebnisses. Die primäre Lidplastik ermoglicht die Durchführung einer breiten und radikalen Resektion der malignen Geschwulst und damit die Vorbeugung von Spätrezidiven. Eine markante Vernarbung des Gewebes nach der primären Lidplastik wurde nicht beobachtet.

RESUMEN

Peculiaridades y resultados de la plastia primaria de los párpados en tumores de los párpados y de la orbita

M. V. Zaikova, E. V. Koroleva

Plastia primaria de los párpados tiene empleo amplio en tumores de los párpados tanto benignos como malignos. El escoger del método de la plastia depende de la edad del enfermo, del tamaño y localización del defecto y de la condición de los tejidos próximos. Elección individual del método es garantía de un resultado bueno. La plastia primaria de los párpados hace posible ejecución de una resección amplia y radical del tumor maligno y así prevenir recidivas tardías. Ninguna cicatrización del tejido después de la plastia primaria fue observada.

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RECONSTRUCTION OF THE DONOR'S AURICLE AFTER REMOVAL OF THE CARTILAGE FOR AURICULOPLASTY

G. V. KRUCHINSKYI

A plastic operation of the auricle is one of the most complex problems of reconstructive surgery that still remains unsettled. It is known that auto- and allogenic rib cartilage, bone, non-corrossive metals, plastics and cadaverous or maternal auricular cartilage were tried for this purpose. Some attempts to use maternal cartilage were made by Gillies (1937), Greeley (1941) and Bäckdahl et al. (1954). There are no other references on the use of maternal cartilage in the literature. The above mentioned authors performed 51 transplantations altogether.

The basic disadvantage of the plastic operation of this kind was, according to the authors, a resolution of the transplanted cartilage, which was gradually replaced by a connective tissue, leading subsequently to deformation of the reconstructed auricle. The authors payed a little attention to preservation of the auricular form in the mother, that agreed with such an operation only for the child's sake. After removal of cartilage, Gillies and Greeley applied only a stencil bandage, which was prepared according to the plaster model taken from the mother's auricle before operation. Bäckdahl et al. left a cartilaginous rim 1—2 mm wide; it was more effective, but preservation of the pinna's form was still insufficient.

Being aware of the ideal form and structure of the auricular cartilage and based on our experience with the use of cadaverous cartilage for auriculoplasty, we assumed that also auricular cartilage taken from a living donor can be successfully utilized. This technique might be a method of choice among other recommended ways of total auriculoplasty. A method of reconstruction of the donor's auricle and some measures preventing deformation of the reconstructed pinna will be suggested in this paper.

In such a type of transplantations, we considered, of course, also psychoemotional and ethic-moral features of the problem in respect to selection of the donor, information of the donor regarding supposed results of the operation and its possible consequences. It is important that the size of the

donor's pinna should be similar to the size of the child's auricle. The children lacking an auricle were operated on not sooner as the age of 7. The donor and the child stayed in the hospital and thorough clinical examination preceded the operation.

The technique of reconstruction of the whole auricle using the donor's auricular cartilage can be devided into three basic stages.

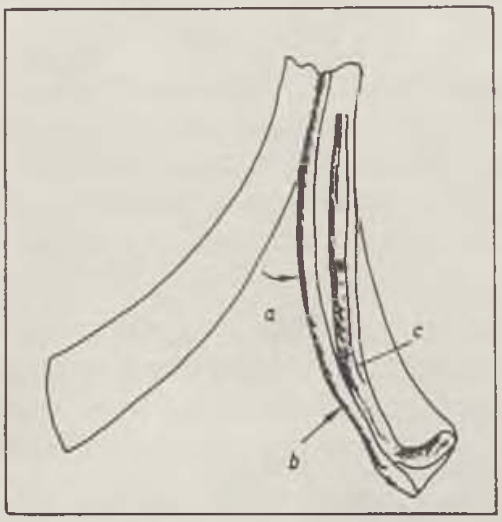

Fig. 1.: A diagramm showing modelling of the lamellae from the rib cartilage. a — the rib cartilage was split longitunally into two halves; b — the rod-like lamella of the cartilage was cut out from each half; c — the lamella, which is curved on one and split on the other end, was cut from the thicker part

The first stage, which is the most labor-consuming one, consists of several operations performed simultaneously and in a definite order. Mostly, a general anesthesia is applied (especially in children). Removal of the auricular cartilage by an adult donor can be made in local anesthesia.

This preliminary report deals only with some operations of the first stage, i.e. with removal of the auricular cartilage by the living donor, and with technique of the immediate reconstruction of the form of the donor's auricle.

A. Removal of the donor's auricular cartilage

A bow-shaped incision is made on the bottom of fossa of anthelix on the inner aspect of the chosen donor's auricle, in the distance of 0.8—1.0 cm from the free margin of the pinna and almost parallely with it. Using obtuse scissors, the skin is peeled off on both sides of the cartilage to the margin of the helix and to the base of the pinna. The cartilage along the helix, including its ascending part, is excised in such a way, that a narrow strip (2.0—2.5 cm wide) remains together with the skin.

Going through an incision of the cartilage made along the margin of the helix, the lateral surface of the cartilage is reached and the auricular skin is exfoliated in the full length in the region of anthelix, its crura and of concha. When the skin is freed off, and the ligaments around the external auditory meatus are disrupted, the cartilage is taken out.

B. Resection and modelling of the rib cartilage

Simultaneously with removal of the cartilage from the donor, a second team of surgeons is taking out a rib cartilage in the child. The cartilage of the 7th rib is excised between sternum and bony part of the rib. The cartilage is taken on the side of the missing auricle. It is resected subepichondrially. It should be emphasized that a presence of the intercostal ligaments makes this procedure rather difficult.

The rib cartilage is cut longitudinally into two halves (Fig. 1 a). Each half is cut to form a rod-like lamella (Fig. 1 b) and another piece of a more complex form: it is curved on one end and split on the other one (Fig. 1 c). The rod-like lamella is destined for reconstruction of the helix contour. The split ends of the curved lamella form a support of the two anthelix crura and the thicker end serves to formation of concha of the auricle and of a prominence of antitragus.

The lamellae are shaped carefully, the sharp edges are smoothened and the uniform flexibility is achieved by particular thinning them out. One pair of lammellae is used for reconstruction of the form of the donor's auricle and the second pair for plastic operation on the deficient child's pinna.

C. Reconstruction of the form of the donor's auricle

The donor's auricle, from which the cartilage was removed, appears to be hardly deformed. It is represented by a warped fold or formless lump of the skin. In order to repair the form of the auricle, the rod-like lamella of the rib cartilage is bended according to the original contour of the helix and fixed in the place using a silk thread (Fig. 2 b). To make the manipulation more precise, it is recommended to bend a wire templet before the operation according to an outline of the donor's auricle and after boiling it thoroughly to place it on the table (Fig. 2 a). The ends of the fixed lamella in the bended position should remain free (Fig. 2 b). This arc is placed under the skin of the donor's pinna and brought in line with the auricular cartilage left along the margin of the helix. The skin is separated and in appropriate sites of the temporal fascia two small pockets are formed, into which the free ends of the cartilaginous frame-work are put (Fig. 2 d, e).

The second curved lamella with a split end (Fig. 2 c, d) is positioned in place of the missing anthelig and concha's margin of the auricle.

The frame must be thin with well-smoothened edges and freely, without force, should be placed under the skin. The incision is sutured leaving a drain. The skin of the pinna is evenly distributed, so that a natural external relief is achived. A multilayer gauze banage is placed behind the auricle. On the lateral aspect, a tamponade of concha and of external auditory meatus is applied. The pinna's relief is underlined by thin moistured cylinders.

A history of a disease and operation will be presented as an example.

A patient B., 42 years old, came to the clinic asking for reconstruction of pinna by his son S., 7 years old. Diagnose: microtia of the 3rd degree on the right side, syndrome of the 1st and 2nd branchial arcs. The father agreed

to give his auricular cartilage as a material for plastic repairment of the deformed auricle of his son.

The operation was performed on May 10, 1972. The cartilage from the father's right auricle was removed. The father's pinna was subsequently reconstructed using lamellae of the rib cartilage of his son. The operation was carried on under local anesthesia, as described above. The appearance of the father's pinna after removal of the auricular cartilage and after the operation is shown in fig. 3. The outline and relief of the reconstructed pinna practically

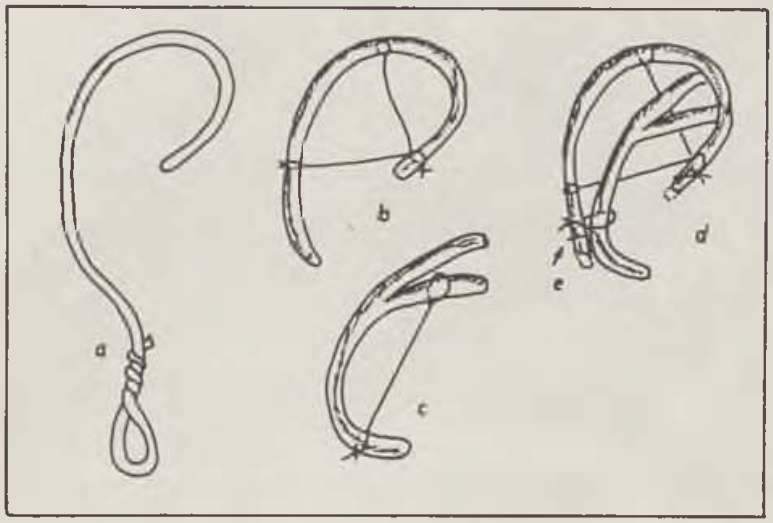

Fig. 2.: A diagramm showing modelling of the light frame-work consisting of the rib cartilage lamellae, which is used for reconstructive of the pinna.

a — a wire templet of helix form of the donor's auricle; b — bending of the rod-like cartilaginous lamella according to the helix outline, fixed by silk thread; c — the curved and split lamella used for formation of anthelix and other parts of the auricle; d — the completed thin frame-work of donor's auricle; fascial pockets with introduced ends of the helix cartilaginous lamella are shown (d, e)

did not differ from the outline and relief of the normal auricle, due to application of the artificial cartilaginous frame-work. The father's auricular cartilage together with lamellae of the son's rib cartilage were immediately transferred to his son, in order to substitute for his missing auricle. Further corrections of the donor's auricle were necessary only very rarely.

The first transplantation of the donor's auricular cartilage for partial auriculoplasty followed by reconstruction of the donor's auricle took place in the Belorussian Institute of Postgradual Education of Physicians in March, 1972.

In the case of utilization of the mother's cartilage for repairment of e.g. rolled auricle or other anomalies requiring relatively small pieces of cartilage, the cartilage from auricular concha is taken. In this way the form and relief of the pinna are not disturbed.

Totally, 9 trasplantations of the donor's auricular cartilage were performed. In 7 cases the donor's auricle was reconstructed using lamellae of the

Fig. 3a

Fig. 3b

Fig. 3c

Fig. 3d

Fig. 3.: Different stages of removal of the auricular cartilage and of reconstruction of the form of the donor's pinna.

a — isolation of helix in donor; b — deformation of the donor's auricle after removal of auricular cartilage; only a deformed lobe consisting of folded skin is preserved in the place of the auricle; c — appearance of the donor's pinna one year after reconstruction, its form slightly differs from the normal one; d — appearance of the normal auricle

rib cartilage as described in this article, in 1 case a thin frame-work made from elastic plastic (silicone) was transplanted and in 1 case, according to the donor's wishing, the auricle was not reconstructed at all. The transplantation of the silicone implant was unsuccessful and the plastic had to be removed. The mother's pinna was then reconstructed using allogenic cartilage.

Our observations approved the fact that not only mother, but also father or anybody else may be a donor of the cartilage.

The relatively simple and accessible way of reconstruction of the form of donor's pinna significantly enlarges the field of indications of our method. It can be used for repairment of both total and partial deficiencies or another anomalies of the auricles. M. T.

SUMMARY

The use of the maternal cartilage for reconstruction of the auricle was concisely reviewed and some difficulties were noted. A technique of removal of the auricular cartilage by a living donor and a way of reconstruction of the donor's auricle using shaped lamellae of the recipient's rib cartilage, were described. The technique was applied in 7 donors. An attempt to transplant a thin silicone implant was unsuccessful. Not only mother, but also father or anybody else may be a donor.

RÉSUMÉ

Réconstruction de l'oreille du donneur après l'amputation du cartilage destiné à une auriculoplastie

G. V. Kroutchinskyi

On a fait un bref aperçu l'utilisation du cartilage d'oreille provenant de la mère a la réconstruction du pavillon de l'oreille de son enfant et en a montré les difficultés. On a décrit la méthodique de la prise du cartilage d'oreille d'un donneur vivant et le mode de la réconstruction du pavillon de l'oreille du donneur à l'aide des lamelles cartilagineuses modélées du cartilage de côte du receveur. La technique a été utilisé sur sept donneurs. L'application expérimentale d'un implant mince de silicone était sans succès. C'est non seulement la mère mais aussi le père ou un autre homme qui peuvent figurer au nombre des donneurs.

ZUSAMMENFASSUNG

Wiederherstellung des Ohres vom Spender nach Entnahme des für die Ohrenmuschelplastik bestimmten Knorpels

G. V. Krutschinskij

Es wurde eine kurze Übersicht der Verwendung des Ohrknorpels der Mutter zur Wiederherstellung der Ohrmuschel des Kindes gegeben und auf die Schwierigkeiten hingewiesen. Es wurde die Methodik der Entnahme des Ohrknorpels vom lebenden

Spender beschrieben sowie die Methode der Wiederherstellung der Ohrmuschel des Spenders mittels Knorpelplättchen, die aus dem Rippenknorpel des Empfängers modelliert wurden. Diese Technik wurde bei sieben Spendern angewandt. Die versuchsweise Anwendung eines dünnen Silikon-Implantats war erfolglos. Als Spender kann nicht nur die Mutter, sonder auch der Vater oder eine andere Person sein.

RESUMEN

Reconstrucción de la oreja del donor después de la amputación del cartílago destinado a la auriculaplastia

G. V. Kruchinskyi

Hemos presentado un informe resumido de como aprovechar el cartílago auricular de la madre para la reconstrucción del pabellón de su hijo y hemos mostrado las dificultades. Fueron descritos los métodos de la amputación del cartílago auricular de un donor vivo y la manera de la reconstrucción del pabellón del donor mediante láminas cartilaginosas modeladas del cartílago costal del recibidor. La técnica fue usada en siete donores. Empleo experimental de un implante fino de silikon no tuve éxito. El donor puede ser no solamente la madre sino también el padre a otra persona.

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EXPERIENCE UNTIL NOW WITH PERIPHERAL NERVE INJURY TREATMENT IN THE UPPER EXTREMITY

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

Prior to World War 2, surgeons failed to devote adequate attention to the treatment of injured hand structures. Experience with the treatment of wartime injuries gained during the 1st and partially also the 2nd World War suggested on the whole better results achieved with secondary suture. During World War 2, the English introduced early secondary nerve suture as a method of choice. The controversial point was whether such experience was equally suitable for peace-time injuries. Using experiments on monkeys, Grabb proved the results of primary nerve suture to be substantially better than those of delayed suture.

Throughout its course, a nerve depends on the central cell capacity to synthesize proteins, their transfer to the periphery being called axoplasmic flow (Weiss, 1942). As a result of peripheral nerve injury, central cells become progressively enlarged. The onset of such hypertrophic changes occurs on days 3 to 4 to reach their climax on days 10—12 after injury. It was for the above reasons that a number of authors thought that a maximum neuron repair capacity coincided with the subacute phase after injury, recommending a few days' postponement of nerve suture. However, the question of the optimum timing of nerve suture remains an open one. Protective sensory sensibility will become restored even under adverse conditions of metabolism, a phenomenon put down to the independent metabolism of its end organs.

Classical epineural suture continues to be the standard method of peripheral nerve reconstruction. As the results so far suggest, a complete return to motor and sensory nerve function is, for the time being, unrealistic. Normal state is restored in only a tiny proportion of patients so that it is more realistic to refer to a useful degree of recovery. Regeneration of an injured nerve will take place only provided the central and peripheral plates necessary for reinnervation have remained preserved and retained a degree of capacity necessary to restore the original state. Once the nerve has been broken, structural changes occur in the spinal cord as well as in the muscles so that

even after anastomosis performed with the utmost precision or after neurolysis the results, as a rule, fail to meet expectations.

CLINICAL MATERIAL

We were mainly concerned with traumatic disorders of major nerves extending from the axilla down to the volar carpal ligament. A total of 68 patients with traumatic lesions of the n. medianus, n. ulnaris and n. radialis were treated at the Department of Plastic Surgery in the period between January 1, 1969 and June 1, 1975.

The patients' age at the time of injury ranged between 7 and 59 years. There were 65 male patients and 3 women. The aetiology of the accidents was established partly on the basis of personal history, partly on the clinical finding. The accidents were classed as either sharp cuts (61 patients) or lacerated wounds (7 patients). In 9 cases, more than 1 nerve was damaged.

Epineural suture was performed in 49 patients who had received a primary treatment at our Department. N. medianus was found to have been injured in 31 cases, n. ulnaris in 11 cases and n. medianus and n. ulnaris in 7 patients. 19 patients had received primary treatment at different surgical clinics and were later admitted at our Department with a view to explore the nerve affected at the site of the injury. External neurolysis was performed in one patient, secondary suture in 18 patients involving a resection of the nerve into the unaffected healthy parti. Approximation of the two ends of the nerve was feasible in 76 % of the cases concerned and that only after a maximum of flexion either in the wrist or in the elbow.

METHODS AND TESTS

A number of tests were made in all the patients in order to determine the degree of sensibility restoration, motor and sympathetic nerve activity, as well as the function of the upper extremity as a whole. (Moberg's picking up test, Weber's two-point discrimination test, Seddon's coin test, routine tests with a piece of cotton woll and pin, Tinel's percussion sign.) The disadvantage of the above tests is in that they are subjective since the results obtained are to a great degree dependent on the patient's as well as the surgeon's capacity of concentration. Moberg's ninhydrin sweat test appeared to offer more objectivity being based on the recognized fact that normal tactile gnosis is always present in a region of the hand with normal sudomotor function. Areas with intact sensory function sweat normally giving normal print while denervated areas leave no print. — The restoration of the motor component of the nerve presumes progressive restoration of muscle contraction distal from the nerve lesion level.

RESULTS

68 patients received surgical treatment, in 49 patients surgical operation was combined with open wound treatment. Neurolysis was indicated in only one patient where the nerve was compressed by surrounding fibrotic scar

tissue. Within 3 months, a substantial improvement of both nerve functions was observed.

Primary nerve suture was performed in 49 cases. Anastomosis involved suture of the epineurium using single knot stitches (atraumatic nylon 6-0 on atraumatic needle) after a preceding adaptation of the ends of the nerve. 29 patients had their n. medianus severed in the distal part of the forearm near the wrist where sensibility became restored in 82 % and motor function in 68 %. In 2 cases of nerve rupture above the elbow median nerve function remained unsatisfactory with only a certain degree of sensitivity to pain present in the autogenous zone.

In 11 cases of n. ulnaris lesion, sensibility in the region of n. ulnaris innervation was good in 74 %, and in only 3 cases discernible instrinsic muscle activity was present (the 10—19 years of age group).

In 7 patients with n. medianus and n. ulnaris lesions a useful degree of sensibility developed in the region of n. medianus innervation in 6 cases and n. ulnaris in 4 patients. The degree of motor function restoration was unsatisfactory in either nerve.

18 patients had secondary nerve suture performed. In 16 patients, two and a half months had elapsed from the accident, in two patients — up to two years. In most of the cases involving secondary suture, two-fold optical enlargement was used, 6 patients had epineural suture performed under a surgical microscope with an enlargement of 12.5×. To operate on the epineurium, suturing material 8-0 and 10-0 thick was used.

In 12 patients with n. medianus lesions, involving 2 cases of partial nerve lesion, useful sensibility was restored in 9 cases (75 %) while in 3 patients merely protective sensitivity to pain had developed. Motor function was found good in 65 %.

In 3 patients with n. ulnaris lesions, where surgical microscope was used in 2 cases, sensibility was found good in all three cases with motor nerve function being satisfactory in two patients and progressively improving function demonstrable in intrinsic hand muscles (age groups 21—30, 31—40 years).

Two cases involed lesions of n. medianus and also n. ulnaris with surgical microscope used again. The restoration of the sensory functions of both nerves was found satisfactory, and so was the motor function except in the region of n. medianus innervation.

In only one patient with lesion of the n. radialis the result turned out to be unsatisfactory and transposition of tendons was carried out later on.

DISCUSSION

We know that nerve regeneration depends on a number of factors. The most important ones include the patient's age, type of injury, length of the defect in the peripheral nerve, nutritional supply of the nerve, the amount of scar tissue developed and, eventually, the technique for the nerve suture, too.

No satisfactory results can be expected after an unsatisfactory suture technique even under the best of conditions, that is why the nerve ought to be manipulated with a maximum of atraumatic technique (Fig. 1 and Fig. 2).

Another condition for success involves good anatomical approximation. The surgery has been greatly contributed to by the introduction of micro-

Fig. 1.: State after resection into the healthy part. A 4 cm defect remains in the course of n. medianus

Fig. 2.: Defect in the course of the nerve bridged by three fasciculi from the n. suralis. — Sutures of the fasciculi performed under surgical microscope

surgery, by the development of adequate microinstruments and ultrafine suturing material. In primary suture, electrical stimulation of the ruptured nerve is recommended to facilitate the identification of fasciculi belonging to each other. Perineural suture of the more centrally located fasciculi

is to be performed first, proceeding towards the periphery afterwards. Another important factor is that of the amount of tension at the site of the nerve suture. Many types of injury cannot be treated by end-to-end anastomosis due to a major nerve defect. An ideal solution was proposed by Bielkowski and Unger who, in 1917, came forward with the idea of using nerve autografts. At that time, the main problem involved overcoming the difference between the raw stumps and the thin skin nerve which they used as the nerve autograft. The problem remained unsolved until the present-day introduction of microsurgery. The technique of the procedure was developed by Milesi and is referred to as interfascicular nervegrafting operation, which we began to use at our Department. Both nerve stumps are to be cleared of epineurium and resected as far as the healthy part. The nerve stumps are then sorted out into the corresponding groups of fasciculi (three, as a rule) and the defect is bridged using the n. suralis or some other skin nerve. Suturing the individual fasciculi is done under the surgical microscope.

Ha

SUMMARY

The paper presents a survey of the present state of the surgical treatment of upper extremity peripheral nerve injuries. Unsatisfactory results yielded by primary or also secondary nerve sutures led to the routine uses of surgical microscopy. A precise performance of microsuture of the main fasciculi of the broken nerve, using atraumatic operational technique, provides optimum conditions for satisfactory restoration of each of the functions of a ruptured peripheral nerve.

RÉSUMÉ

Expériences actuelles du traitement des lésions des nerfs périphériques sur le membre supérieur

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

L'article systématique présente un aperçu sommaire sur le traitement chirurgique d'aujourd'hui des nerfs périphériques du membre supérieur. C'étaient les résultats non satisfaisants obtenus après les sutures primaires, éventuellement sécondaires des nerfs qui présentaient le stimulus principal pour l'utilisation routinière d'un microscope d'opération. La microsuture des principaux faisceaux du nerf coupé faite précisement et la technique opératoire atraumatique fournissent des conditions optimales pour une bonne restitution des différentes fonctions du nerf périphérique coupé.

ZUSAMMENFASSUNG

Gegenwärtige Erfahrungen mit der Behandlung von Verletzungen der peripheren Nerven an der oberen Gliedmasse

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

Der Sammelartikel bietet eine Übersicht des gegenwärtigen Standes der chirurgischen Behandlung von Verletzungen der peripheren Nerven der oberen Gliedmasse. Die unbefriedigenden Ergebnisse nach primären beziehungsweise sekundären Nerven-

suturen bildeten den Hauptanlass zur routinemässigen Anwendung des Operationsmikroskops. Die exakte Durchführung der Mikrosutur der wesentlichen fasciculi des unterbrochenen Nervs mittels atraumatischer Operationstechnik bietet optimale Bedingungen für schnelle Rückkehr einzelner Funktionen des unterbrochenen peripheren Nervs.

RESUMEN

Experiencias actuales con el tratamiento de lesiones de los nervios periféricos en la extremidad superior

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

El artículo sistemático presenta un informe sobre la condición actual del tratamiento quirúrgico de la lesión de los nervios periféricos de la extremidad superior. Los resultados no satisfactorios después de las suturas primarias eventualmente segundarias de los nervios eran estímulo principal para el uso rutinario del microscopio de operar. La microsutura de los fascículos principales del nervio cortado hecha con precisión y le técnica operativa atraumática ofrecen condiciones optimales para restitución buena de las funciones particulares del nervio periférico.

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THERAPEUTICAL AND ORGANIZATIONAL PROBLEMS OF INTENSIVE CARE UNITS FOR SEVERELY BURNED PATIENTS

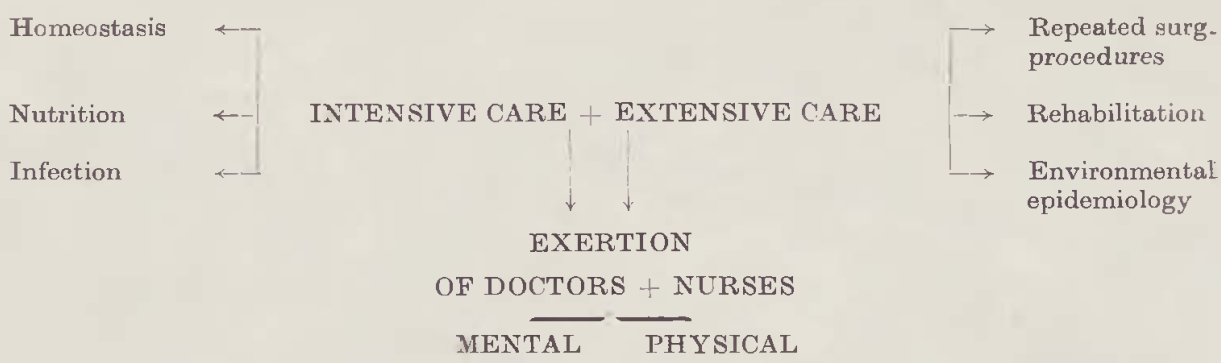
R. KÖNIGOVÁ, J. ŠILAROVÁ

The specific features of any intensive care unit for severely burned patients — unlike those of other anaesthesiological-resuscitation departments or intensive care units catering for other critical conditions — result from the very nature of the injury: a dynamic, persistent lesion taking a number of weeks or even months to heal continuous systemic and local response. A special form of shock develops involving extreme fluid shifts. The emergency period may last one day to two weeks, terminating in the oedema being excreted, i.e. a loss of 10 % body weight. (Tab. 1.) Even after the shock has been put under control, this is not the end but rather the beginning of the problem of treating and nursing the extensively burned, a situation unlike other critical conditions. All the elements of intensive as well as extensive care required by the severely burned patient (Tab. 2) are already present during the emergency period as most of the complications of the subsequent periods are related to the functional and morphological changes arising from shock hypoxia. Early and adequate shock treatment is essential though the bulk of the work is to be found in the complex therapy in the

Tab. 1. Shock period (Emergency period)

Time of duration: 1 day — 2 weeks		
	Depending on	gravity of burn
		patient's condition
		mental physical
Aim of emergency operations:		To prevent complications
		— early
		— appearing subsequently in the course of the burn disease (Acute period)

Tab. 2. A severely burned patient requires



course of what is now referred to as the acute period (formerly used terms: toxaemia, burn disease, burn syndrome), during which the mortality rate is at its highest.

It is absolutely necessary to give each case a strictly individual scrutiny as well as to consider the patient's mental stress, the degree of which is determined not only by the mechanism of the accident and the circumstances before and after the accident but also by the patient's personality. Mental stress — pain and fear — is liable to affect the alarm reaction intensity and — on prolonged states of shock — the development of early gram-negative sepsis.

Other significant factors in terms of complications include the technique of nursing:

1. adherence to all principles of sterility in handling the patient can help to contain or at least to defer grave systemic infection in those extensively burned.

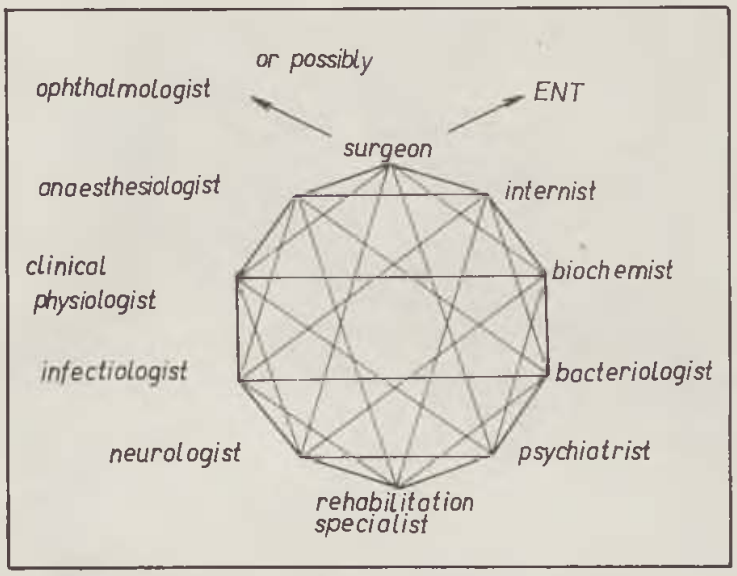
2. timely and correctly performed surgery during the emergency period can help prevent the onset of respiratory disturbances as well as possible subsequent disfiguration or loss of tissue. One thing that has to be borne in mind is that any release incision just as any venesection or urinary bladder catheterization open potential routes for infection, given the slightest error in nursing.

3. equally indispensable are the principles of rehabilitation throughout the course of treatment as regards well-planned positioning as a means of preventing a) pulmonary complications, bedsores, and development of gram-positive sepsis in the dorsal regions affected, b) oedema in the extremities and stiffening of the joints.

4. the problem of nutrition constitutes an important part of complex therapy. Intravenous fluid and mineral replacement, ample supply of calories, proteins, and vitamins (similarly as repeated administration of anaesthetics during repeated surgical operations) share the problem of access routes into the venous system. In cases of frequent gastrointestinal disorders, parenteral hyperalimentation (of the total type) is the only method of feeding available. Unlike other critical conditions, where we are free to choose the best site for

introducing the cannula, the problem of "how and by which way?" aften arises in extensively burned patients. If forced to penetrate the burned area, we are faced with an extremely high risk of sepsis. The development of moniliasis constitutes another risk involved in repeated cannulization in the course of long-term treatment using broad-spectrum antibiotics.

Any complex treatment involving a variety of complications calls for a team of consultants (Tab. 3), whose opinions in combination with the results obtained by research workers help to make up the whole of the mosaic. A surgeon who has followed up the patient through all the stages of the latter's



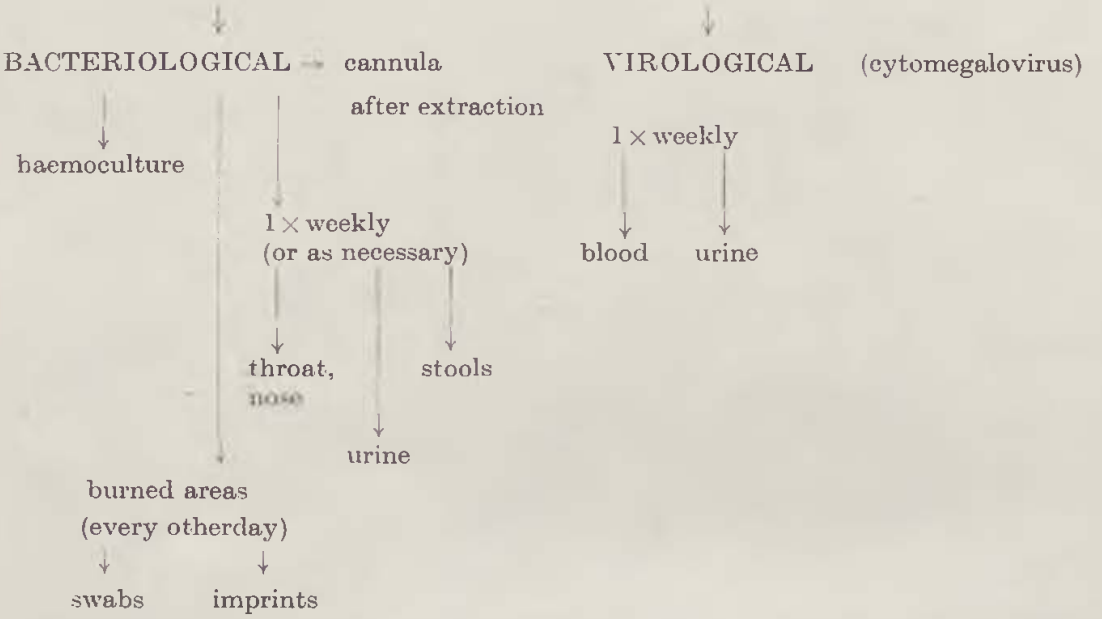
Tab. 3

treatment in the ward as well as in the operating theatre is expected to shape the respective opinions and findings into a comprehensive clinical picture. The requirement for what is termed as continuity of view takes for granted that the patient should be followed up by the same medical team, an arrangement necessarily conductive to the development of human relationship between the burned subject and the medical and nursing staff. We see it as an achievement that at our unit the patient is offered the chance of permanent contact with the same team of doctors who attend to and operate on him right from the admission of the accident up to the period of reconstructive surgery. This seems to have a positive impact on the burned patient's state of mind, though at the cost of considerable mental exertion on the part of the medical and nursing staff. It stands to reason that those who have devoted their lives to the treatment of severe burns are expected to possess great mental stamina, a capacity to cope with many shocking and depressive situations such as are associatiated with prolonged therapy but not always with results entirely satisfactory from the aesthetic point of view. They are also expected to be physically fit, for both the surgical operations and the manipulation of the burned patient at his bedside or in the bath are time-consuming and physically exhausting. This is a great load placed on the organisms of

both doctors and nurses and so is the never-ending struggle with all sorts of microbian and viral infection.

Patients extensively burned are given regular bacteriological investigations, including those for yeast and fungi: wipings and imprints taken off the burned areas every other day, swabs from the throat, nose, rectum; if need be, investigations of the urine, cannula following extraction, possibly of haemoculture, too. Virological investigations include regular, weekly titration of antibodies against cytomegalovirus in the serum, and proof of the presence of cytomegalovirus in the urine (Tab. 4).

Tab. 4. Investigating the severely burned



Epidemiological exploration carried out once a month or, if necessary, even more frequently has helped to establish the fact that the wards as well as the auxiliary rooms harbour gram-negative microbes, particularly in wash-basins, sinks, bedpans, with gram-positive microbes persisting on the floors but also on dressing tables after use.

The epidemiological investigation of the hospital staff has made it abundantly clear that mainly gram-positive microbes could be cultivated from throat and nose smears. 30—40 % of these are known to be permanent carriers of Staphylococcus pyogenes aureus while 20 % are known to be transitory carriers. It is for that reason that the intensive care unit staff are obliged to wear caps, masks, and gloves in order to curtail the circulation of microbial populations: from staff to patients, from patients to staff, and among patients from each other. Passage and repeated antibiotic treatment are liable to turn sensitive staphylococcal strains into a hospital variety endangering debilitated patients. On no occasion during the 1972—1975 survey were any such desensitized strains found among the hospital staff, though they were quite common in burned patients.

In terms of virology, the risk of hepatitis is always higher where people are exposed to excessive physical and mental exertion, and this is another reason which makes work in masks and gloves a necessity.

CONCLUSION

References in literature as well as warnings at working conferences have made it repeatedly clear that intensive care units are high-risk places of work both in terms of infection:

a) not much if anything is known about the admitted patient's infection profile (tb, hepatitis),

b) the patient on admission, however proved his infection may be, must be given immediate aid,

c) members of the staff are more than usual exposed to droplet infection in the course of withdrawing secretions from the respiratory tract,

and in terms of mental and physical overexertion, a fact which must be blamed for too many members of the staff changing jobs on the one hand, and for shortage of staff on the other hand. Up to 60 % of the staff change jobs in a year, thus leaving at the unit only those who took up the employment for reasons of personal interests and devotion. Maximum service period is quoted as being 5 years, since great demands placed on the need to increase qualification continually, on working initiative, time, state of health and, last but not least, the inadequate renumeration for the work done are all reasons for which most of the staff leave their jobs. This, in turn, only aggravates the shortage of staff thus making it necessary to take on unqualified (substituting) individuals who are unable to meet the demands on suddenly accumulated work, precise administrative work, and observance of regulation conditions of hygiene pertaining to the already difficult, complex, and responsible nursing work in severely burned patients.

J. H.

SUMMARY

The treatment of severely burned patients calls for both intensive and extensive care which in turn requires team cooperation from both medical specialists and the paramedical personnel. At burns intensive care units the two groups of health workers are exposed to great mental and physical exertion. Increased ethical demands follow from the long-term nature of the injury and from the need for a strictly individual approach to patients. Physical exertion is due partly to difficult manipulation with severely burned patients at the bedside, in the operating theatre and in the bath, partly also to permanent exposure to microbian and virus infection. Continual bacteriological as well as virological follow-up of the patients is carried out regularly. A systematically conducted epidemiological investigation of the hospital staff and environment takes place every month. The risk of infection (bacteriological and viral) being transferred to staff can be prevented by strict adherence to all principles of sterility in handling the patient as well as by wearing caps, masks, and gloves. The excessively high rate of staff members changing jobs

must be put down to physical and mental overexertion as well as to inadequate remuneration of this difficult work.

RÉSUMÉ

Problèmes du traitement et de l'organisation de l'Unité des soins intensifs pour les grièvement brûlés

R. Königová, J. Šilarová

Le traitement des grièvement brûlés exige des soins extraordinaires intensifs et extensifs ce qui supporte une collaboration d'une équipe des médecins spécialistes et des cadres moyens sanitaires. Dans les Unités des soins intensifs de brûlures, les deux groupes de travaillers sont surchargés à tous égards — psychique et physique. Ce sont le caractère de la maladie de longue durée et la nécessité de procéder aux malades d'une manière extrêmement individuelle qui imposent de grandes prétentions éthiques. La surcharge physique consiste soit en manipulation difficile des malades étant au lit avec des vastes brûlures, dans la salle d'opération et dans la salle de bains, soit en exposition permanente à l'infection microbiale et virale. Les observations continuelles bactériologique et virologique des malades se font régulièrement. L'examen systématique épidémiologique du personnel traitant et de son milieu est assuré chaque mois. On peut éviter le danger de la transmission de l'infection (des bacilles et des virus) chez le personnel en suivant toutes les mesures de stérilisation pendant la manipulations du malade et portant les casques et les gants. Un pourcentage très élévé de fluctuation des cadres résulte de la surcharge physique et psychique et même d'une apprétiation insuffisante de ce travail si difficile.

ZUSAMMENFASSUNG

Therapeutische und organisatorische Probleme der Intensivpflegestation für Schwerverbrannte

R. Königová, J. Šilarová

Die Behandlung von Schwerverbrannten erfordert sowohl intensive als auch extensive Betreuung, die eine kollektive Zusammenarbeit aus den Reihen der Ärzte-Spezialisten und des mittleren medizinischen Personals voraussetzt. Beide Mitarbeitergruppen sind auf den Intensivpflegestationen für Verbrennungen in physischer und psychischer Hinsicht belastet. Die erhöhten athischen Forderungen ergeben sich aus dem langzeitigen Charakter der Erkrankung und aus der Notwendigkeit des streng individuellen Herangehens an einzelne Kranken. Die physische Belastung besteht einesteil in der schwierigen Manipulation mit Patienten mit ausgedehnten Verbrennungen im Bett, im Saal und im Bad, einesteils in der dauernden Exposition gegenüber mikrobiellen und Virusinfektionen. Eine kontinuierliche bakteriologische und virologische Überwachung der Kranken erfolgt regelmässig. Die systematisch durchgeführte epidemiologische Überwachung des Behandlungspersonals und der Umwelt wird einmal monatlich abgesichert. Der Gefahr einer Infektionsübertragung (von Bazillen sowie Viren) beim Personal kann durch strenge Einhaltung aller Sterilitätsbedingungen während der Manipulation mit den Patienten und durch das Tragen von Mützen, Masken und Handschuhen vorgebeugt werden. Der überaus hohe Prozentsatz der Fluktuation der Kader fusst auf der physischen und psychischen Überlastung und der ungenügenden Anerkennung dieser beschwerlichen Arbeit.

RESUMEN

Problemas de tratamiento y organización en una unidad de curación intensiva para los gravemente quemados

R. Königová, J. Šilarová

Tratamiento de los gravemente quemados exige asistencia curativa así intensiva como extensiva que supone colaboración en equipo de los médicos especialistas así como del personal sanitario de media instrucción. Los dos grupos de trabajadores en las UCI están sobrecargados psíquica- y físicamente. Las mayores exigencias éticas resultan del carácter de la enfermedad, que es de larga duración, y de la necesidad de proceder estrictamente individualmente a los particulares pacientes. La carga física consiste por una parte en la manipulación difícil con los pacientes de quemaduras extensas sea en el lecho, en la sala de operación o en el baño, por otra parte en la exposición contínua a la infección microbial y viral. Observación contínua de los pacientes desde el punto de vista bacteriológico así como virológico se hace regularmente. Reconocimiento epidemiológico del personal sanitario y del ambiente se hace sistemáticamente cada mes. Se puede evitar el perículo de transferir infección de bacilos y virus por el personal si se mantienen todas las medidas de esterilidad durante el manejo con el paciente y si el personal se pone capas, caretas y guantes. Es la sobrecarga psíquica y física y poca apreciación de este trabajo difícil que causa el sumamente gran por ciento de fluctuación del personal.

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COCCYGEAL („TAIL") PROJECTION WITH CARTILAGE CONTENT

M. FÁRA

A projection in the coccygeal area belong amongs extremely rare congenital defects. The process may be quite minute or else grow into quite a size; in exceptional cases it may contain also a bony or cartilaginous substructure. However, since it is reminiscent of an underdeveloped animal tail it may prove to be quite a mental stress on the patient or his parents and its removal is often emphatically called for even where it poses no functional or cosmetic inconvenience.

The similarity with fauns and satyrs of ancient mythology as well as the superstition of "being under the spell of some beast" have always put the defect in the forefront of public and medical interest. So it happened that despite the small number of known cases, a great deal of attention in literature has been devoted to the problems of classification, embryogenesis and differential diagnosis of coccygeal projections. All this was summed up and dealt with in great detail in our previous communication (Fára and Šmahel, 1973) prompted by the first such case I had had the opportunity to operate on, a projection made up of soft tissues only.

SIMPLIFIED CLASSIFICATION

Proceeding from an analysis of cases so far reported on and from a comparison of a few already existing classifications, we can say that there are 4 basic types of coccygeal projections:

1. appendages like true animal tails, containing supernumerary vertebrae,

2. projections like the caudal ending of an embryo, but which contain no differentiated bone though their substructure may occasionally ossify,

3. projections made up of soft tissue only, with their points turned in the distal direction and their proximal area entirely coalesced with the coccygeal region,

4. processes made up of soft tissue only but never reaching any major size.

OBSERVATION

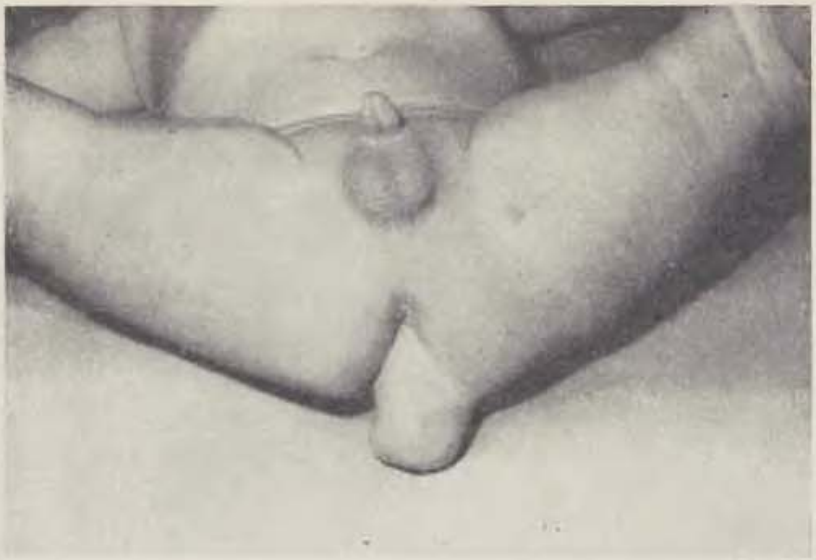
Pat. M. P., cl. n. 96 202, a boy otherwise completely healthy, from a family with no history of congenital defects or serious diseases. 2nd pregnancy, mother took Metronidazol for fluorine in her 3rd month of gravidity. Normal, full-term delivery, b. w. 2.800 g/49 cm. The child was under our observation right from birth.

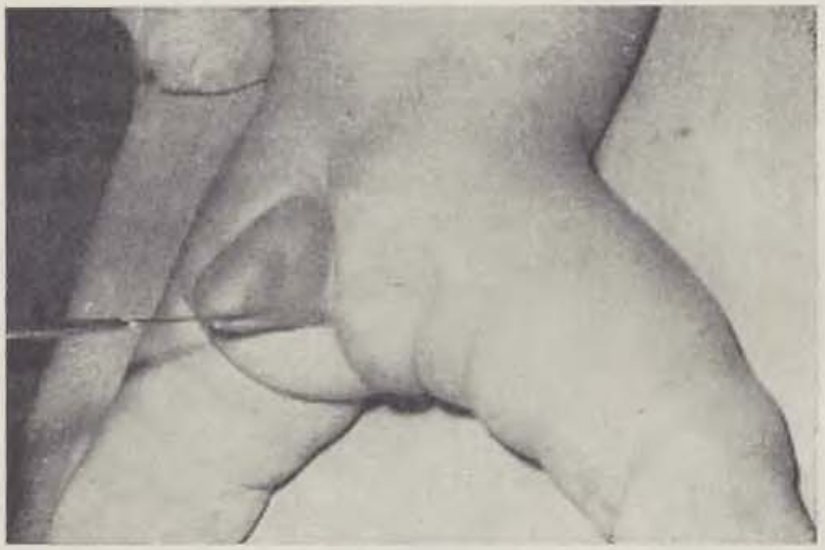
The appendage kept growing in proportion with the body, the hard substructure of the projection being palpable from the very first day of life. It was seen growing from the coccygeal region, narrowing slightly conically in the

Fig. 1. Pat. B. B., cl. n. 80 895, 8 year old girl. Tail projection, 30 mm long, diameter 8 mm, was formed by soft tissue only.

distal direction, the base of the soft tissue branching on the left side lying a little further in the gluteal region than on the right-hand side at a distance of only about 1 cm from the anus inferiorly.

At the time of the operation, at the age of 1 year, the appendage was 9 cm long, its diameter at the base measuring 5 cm. It was removed, preserving a skin bridge 1.5 cm broad just above the anus. The projection contained a cartilaginous substructure branching off as a pseudoarticulation from the terminal coccygeal vertebra. At the dorsal side of the base of the projection there was a cyst in the subcutis, the size of a hazel nut, thin-walled and containing clear, viscid fluid. The appendage also contained muscle fasciculi, visible to the naked eye, growing into it mainly from the left buttock, a direc-





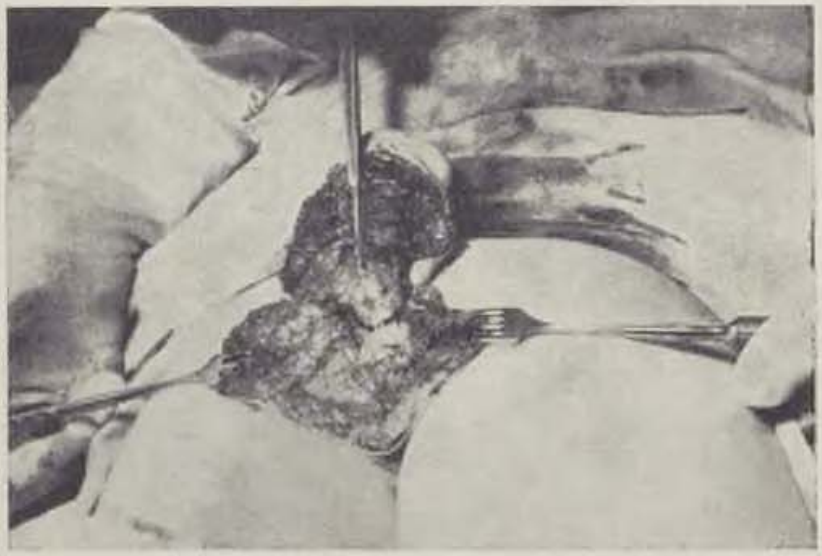


Fig. 2, 3, 4, 5. Pat. M. P., cl. n. 96 202, 1 year old boy. Tail projection, 90 mm long, diameter 50 mm, with cartilage content

tion in which the base was a little shifted. The post-operative course was uneventful, the patient became healed, the stitches removed on day 7.

A histological investigation revealed the formation to be concentrically arranged. The surface is covered with skin including adnexa with sebaceous tissue underneath. Further to the centre follow tissue containing undifferentiated CNS blastema in fibrous capsule. Both the fibrous tissue of the capsule and the connective tissue septa in the nervous tissue contain a mul-

Fig. 5

titude of well differentiated vessels, arteries as well as veins, justifying the characterization of area medullovasculosa. Further on towards the base of the formation there is progressively more connective tissue and less nervous tissue which is then to be found in tiny pools only. There are also dermoid cysts with eosinophilic contents. Throughout the projection, mainly, however, at its base, there are striated muscle fibres. The axis of the formation is made up of a column of young cartilaginous tissue. At the point where the projection branches off there is a cavity lined with cuboidal epithelium and in it transversely cut papillary formations with intensively vascularized stroma structured so as to resemble plexus chorioideus. At certain points of the section even peripheral nerves can be found. The whole formation is conspicuously vascularized.

DISCUSSION

Although our first case of „tail" projection, reported on earlier (Fára and Šmahel, 1973) involved a process made up of soft tissues only (group 4 of our classification), while the present case report belongs to group 2 because of the projection being already very near a true tail, there is a striking similarity as regards the excessive vascularization.

In the former case we were able to find foci with considerably numerous vessels of different size both at the base of the projection and under the skin all around the base where it branched off. The vessels had differentiated walls, growing together in places, with their lumina containing free erythrocytes or haemolyzed blood so that the case was closed with the diagnosis of arteriovenous haemangioma.

Hypertrophy or even malformation of the vascular system in the tail projection was ascertained by other authors, too, (Wirchow 1880, Schaeffer 1890, Harrison 1901, Rostock 1927, Parsons 1960, Lundberg and Parsons 1962, Schierhorn 1968), which in itself can serve as evidence that the finding was not merely accidental. The causes of the excessive growth of the vascular system in the "tail" projection are not clear. It may well be that the endothelium will not always be controlled by the general development inhibition of the relevant region and instead go on growing correlatively under the influence of the growth agents of the body. The theory seems to tally with the possible explanation of the very existence of the whole caudal projection.

Although the causes of the origin of this anomaly have not yet been conclusively demonstrated, they can in all likelihood be seen in the persistence of the embryonic tail process. A human embryo at the stage of 14 mm already has a discernibly developed tail process. Later on, a secondary, hereditarily conditioned disappearance of the process occurs. In rare cases, genetical factors responsible for tail development may prevail over those responsible for its disappearance. Depending on the mutual relationship of the two counteracting factors, the persistent tail process is made up of either merely a skin rudiment and subcutis, as occurred in the former case, or of a much more developed tissue with muscle and solid bone as in the latter case of our other patient.

J. H.

ACKNOWLEDGMENT

The author wishes to thank RNDr. E. Běhounková, head of the histological laboratory, Department of Plastic Surgery, for the histological examination.

SUMMARY

A description is presented of a "tail" projection in a one year old boy, containing a cartilaginous central column and striated muscle. The finding is compared with the author's previous case involving a process formed by soft tissue only. The presence of increased vascularization in the case described as well as the presence of haemangioma in the former case corresponds to similar findings by other authors, suggesting the frequent malformations of the vascular system in the caudal process in man.

RÉSUMÉ

Excroissance caudale

M. Fára

On décrit une excroissance caudale d'un garçon d'un an contenant une colonne cartilagineuse centrale et le tissu masculaire strié en travers. La constatation a été comparée avec un cas préalable traité par cet auteur. Mais cette excroissance était formée seulement par des tissus mous. La vascularisation élevée trouvée dans le cas décrit et la présence d'un hémangiome dans le cas préalable correspondent avec des constatations des autres auteurs et démontrent les malformations fréquentes du système vasculaire dans l'excroissance caudale chez l'homme.

ZUSAMMENFASSUNG

Schwanzauswuchs

M. Fára

Man beschreibt den „Schwanzauswuchs" bei einem einjährigen Knaben, der einen knorpeligen Zentralpfeiler und quergestreifte Muskulatur enthält. Der Befund stimmt mit einem früheren Fall des Autors überein, in dem es sich um einen Auswuchs gehandelt hat, der lediglich durch weiche Gewebe gebildet war. Der Befund der erhöhten Vaskularisierung im beschriebenen Fall sowie das Vorkommen des Hämangioms korrespondiert mit ähnlichen Befunden anderer Autoren und weist auf häufige Malformationen des Gefässystems im Kaudalfortsatz des Menschen hin.

RESUMEN

Excrecencia caudal

M. Fára

Está descrita una excrecencia caudal en un muchacho de un año la que contenía una columna central cartilaginosa y tejidos estriados. El hallazgo fue comparado con un caso previo tratado por el autor con la diferencia que aquella excrecencia fue creada solamente por tejidos blandos. El hallazgo de una vascularización elevada en el caso descrito así como existencia de un hemangioma en el caso previo corresponde con los hallazgos similares hechos por otros autores y demuestra malformaciones frecuentes del sistema vascular en la excrecencia caudal en el hombre.

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ANTIGAMMA-GLOBULIN FACTORS AND LEVELS OF IgG, IgA and IgM IN SERA OF PATIENTS WITH DUPUYTREN'S CONTRACTURE

K. NOEVA, S. KARAGANTCHEVA, A. S. TOSHKOV

Antigamma-globulin factors were detected as a feature of many infectious and non-infectious diseases, although the reason of their formation has not yet been determined. The presence of these antibodies is mostly connected with progression of autoimmune processes. A part of organisms' own IgG is structurally changed, acquires an antigenic character and triggers formation of antibodies. This hypothesis is corroborated by existence of experimentally induced antigamma-globulin factors. Other authors consider these factors as antibodies directed against complexes antigen-antibody, which are circulating in blood stream during infectious processes.

A discovery of antigamma-globulin antibodies by chronic diseases with unclear etiology and pathogenesis deserves a special interest. One of such diseases is Dupuytren's contracture affecting the palmar connective tissue of the hand. No hypothesis explaining the pathogenesis of the contracture of fingers, suggested during more than one hundred years, was generally accepted. Some more recent data are in favour of suggestion that autoimmune processes may play a role in the development of the disease. Therefore, it was of interest to examine, if such antibodies are present in sera of patients with Dupuytren's contracture, having in mind possible autoimmune character of the antigamma-globulin factors.

In this study, the content of antigamma-globulin factors and immunoglobulins IgG, IgA and IgM were estimated in blood sera of patients with Dupuytren's contracture, thus enabling description of a state of humoral immunity in this disease.

MATERIALS AND METHODS

1. Sera were obtained from 102 men suffering from Dupuytren's contracture and treated in the Institute of Orthopaedics and Traumatology. Depending on severity of the contracture, positive family history and accom-

Tab. 1

Distribution of the examined sera in respect to groups and age of the patients with Dupuytren's contracture

Group	Age				
	less than 40 years	from 41 to 50 years	from 51 to 60 years	more than 60 years	Total
I	1	2	10	8	21
II	1	5	11	11	28
III	5	11	16	21	53
Control	7	18	37	40	102

panying alterations of the connective tissue, the patients were divided into three groups:

The first group: The patients with initial nodose stage of Dupuytren's contracture, negative family history, without signs of Lederhose's disease and lacking subcutaneous nodules in joints of fingers of the hand.

The second group: The patients with flexion contracture of fingers, negative family history and without nodules in joint of fingers.

The third group: The patients with flexion contracture of fingers, positive family history and accompanying alterations of the connective tissue (Lederhose's disease and nodes).

The numbers of the examined sera are shown in Tab. 1, in dependence on age of patients. Sera obtained from 102 normal donors of the corresponding age were examined simultaneously.

2. Pure IgG fractions were prepared from commercial human and pig gamma-globulins — Cohn's II fraction by means of chromatography on DEAE-cellulose.

3. Using bis-diazo-benzidine for binding of IgG, the soluble aggregates of human and pig IgG were obtained. Diazo-benzidine-IgG was purified by chromatography on DEAE-cellulose.

4. Agar immunodiffusion was performed in 1 per cent ogarose in 0.06 M Veronal buffer, pH 8.6.

5. Heterohaemagglutination reaction according to Waaler Rose. If a haemagglutination occured in dilutions of serum higher than 1:56, the titre was considered as positive.

6. The content of IgG, IgA and IgM immunoglobulins in the examined sera was estimated by the radial immunodiffusion method of Mancini et al. (1965). The monospecific anti-human IgG, IgA and IgM antisera, which were prepared in the Centre of Infectious and Parasitic Diseases (Sofia), and standard immunoglobulin serum for IgG, IgA and IgM testing produced by "Sevak" (Czechoslovakia), were used. Very precisely calibrated pipettes, available for quantitat-

Tab. 2

Antigamma-globulin factors in sera of patients with Dupuytren's contracture

Group	Precipitation with aggregated IgG				positive per cent
	human		pig		
	+	—	+	—	
I	—	—	6	15	28.5
II	—	—	14	14	50.0
III	—	—	39	14	73.5
Control	—	—	32	70	31.3

ive immunodiffusion and produced by "Hyland" (Swis), were used for pipetting of sera. In each hole of an agar plate 0.04 ml of serum was applied.

RESULTS AND DISCUSSION

I. Antigamma-globulin factors

The sera of patients with Dupuytren's contracture were examined. The results of the immunoprecipitation indicated the presence of heterospecific antigamma-globulin factors in sera of patients of the IInd and the IIIrd group in significantly higher percentage than in control subjects. These factors precipitated an aggregated pig IgG, but did not lead to precipitation of aggregated human IgG (Tab. 2).

By patients with nodose stage of the disease and negative family history (Ist group of patients) the percentage of the formation of antigamma-globulin antibodies was not higher than in the controls (28.5 per cent and 31.3 per cent, respectively).

By patients of the IInd group with expressed flexion contracture, the antigamma-globulin factors were revealed in 50 per cent of the examined sera.

Tab. 3

Waaler Rose titres in sera of patients with Dupuytren's contracture

Group	Waaler Rose titres							positive per cent
	negative				positive			
	7	14	28	56	112	224	448	
I	3	6	6	4	2	—	—	9.5
II	4	12	8	3	1	—	—	3.3
III	5	14	23	6	5	—	—	9.0
Control	29	37	23	9	4	—	—	3.9

By patients of the IIIrd group with flexion contracture, positive family history and alterations of the connective tissue, the antibodies were found in 73.5 per cent of the cases.

All these facts are indicating, that formation of antigamma-globulin factors is connected with progression of the disease and with systemic character of the pathologic changes in the connective tissue.

The negative titres of Waaler Rose reaction were obtained in more than 90 per cent of the sera examined in all three groups of the patients (Tab. 3), i. e. the antigamma-globulin factors present in sera of the patients with Dupuytren's contracture do not possess heterohaemagglutinating properties.

It is known that reactions of heterohaemagglutination are proving a presence of antigammaglobulin antibodies belonging to the IgM group. The absence of Waaler Rose titres in our case leads to suggestion, that antigamma-globulin factors of patients with Dupuytren's contracture belong to the IgG type. It may be supported by the stable content of IgM and increased levels of IgG in majority of the examined sera (Fig. 1).

Tab. 4

The levels of IgG, IgA and IgM in sera of patients with Dupuytren's contracture

Immuno-globulins	Ist group		IInd group		IIIrd group	
	Patients	Controls	Patients	Controls	Patients	Controls
IgG						
Mean value	1910±77	1510±53	1780±60	1430±57	1850±56	1550±48
Interval	1290—2540	820—183	1090—2530	960—2030	990—2670	1050—2200
p	0.001		0.001		0.001	
IgA						
Mean value	449±21	387±22	451±34	367±18	423±16	346±15
Interval	320—672	224—640	167—790	234—589	198—689	160—604
p	0.05		0.025		0.001	
IgM						
Mean value	103±7	90±7	77±6	89±6	91±6	94±5
Interval	47—163	46—144	44—152	46—160	41—227	44—204
p	0.20		0.20		0.70	

We found no data in literature on levels of antigamma-globulin factors by patients with Dupuytren's contracture. It was revealed in our study that they are formed especially by a severe form of the disease, connected with genetic load and systemic affection of the connective tissue. The antibodies are heterospecific as they precipitate with aggregated pig IgG. It would be of interest to follow dynamics of their level and to prove their immunoglobulin nature.

II. Immunoglobulins

and IgM — in sera of 102 patients, some information in respect to the state of the humoral immunity by Dupuytren's contracture was obtained. The results are shown in Fig. 1. Above the normal level of IgG was found in 46.7 per cent of the sera of group I patients, in 39.3 per cent of group II patients and in 47.1

per cent of group III patients. Approximately, in one third of all examined patients an IgA content in serum was higher, compared to the controls. In three patients of the IInd group the values were higher than 750 mg/100 ml.

No changes of IgM content were observed. In all examined cases, with exception of insignificantly increased values in three patients of the IIIrd group, the content of IgM remained within normal limits.

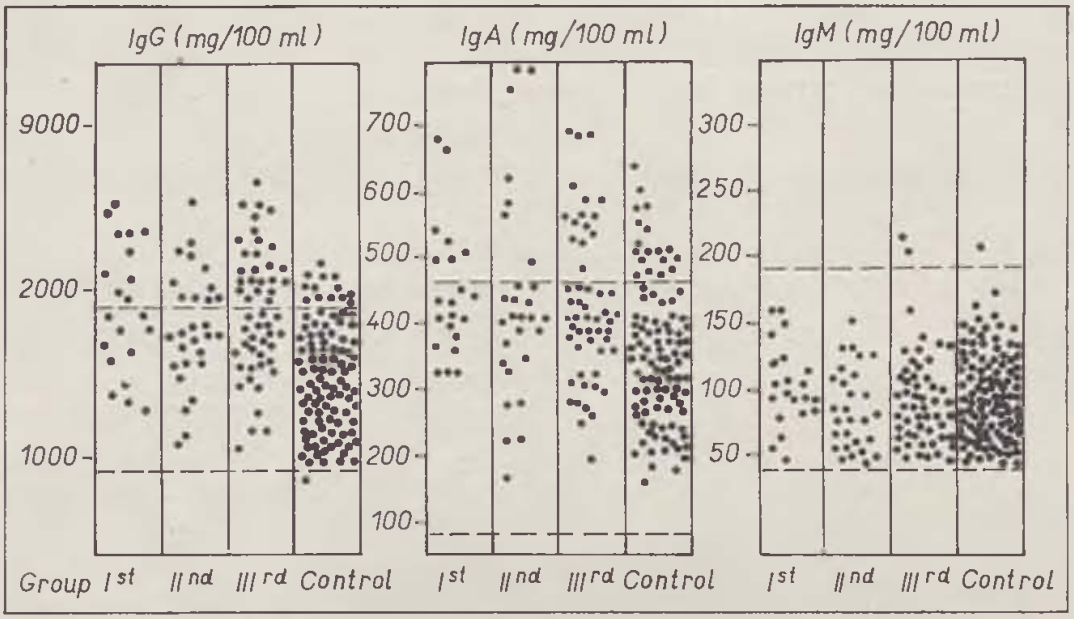

Fig. 1 — Serum immunoglobulins in patients with Dupuytren's contracture of the Ist, IInd and IIIrd group, and in normal donors (control).

Average contents of IgG, IgA and IgM, the standard deviation (SD) and the statistic limits of significance (p) in the sera of the examined patients and in corresponding control sera of the normal donors, are shown in Tab. 4.

The mean concentration of IgG by patients of all three groups was significantly higher than by controls. The difference of increased values is statistically significant ($p = 0.001$). Statistically significant are also the increased levels of IgA in all three groups of the examined patients ($P = 0.05$, 0.025, 0.001, respectively).

A possible dependence of the increased levels of immunoglobulins IgG and IgA on other diseases could be excluded in this study, as majority of patients with Dupuytren's contracture were otherwise healthy. Only some patients had ulcus disease and hypertony, i. e. diseases lacking a direct relationship to the state of humoral immunity.

The changes of the serum immunoglobulins in patients with Dupuytren's contracture are also referred by Gay and Gay. In 12 patients examined increased levels of IgG were found.

Our results show a distinct and statistically significant increase of IgG and IgA levels in sera of patients with Dupuytren's contracture. Greater

differences in the state of the humoral immunity by slight (Ist group of patients) and severe (with relapses) forms of the disease, were not observed. The mean values of IgG and IgA levels in all three groups of patients were very close. Therefore, the increased IgG and IgA levels may serve as a supplementary parameter by the determination of the disease. However, no information can be drawn from their changes in respect to the severity of the disease.

CONCLUSIONS

1. Heterospecific antigamma-globulin factors in sera of patients with Dupuytren's contracture are found especially in cases with severe form of the disease, i. e. if flexion contractures of the fingers, genetic load and systematic alterations of the connective tissue are present.

2. Increased levels of serum immuglobulins IgG and IgA were observed, while IgM content remained within normal limits. M. T.

SUMMARY

The content of antigamma-globulin factors in the sera of 102 patients with Dupuytren's contracture was estimated. The presence of antibodies reacting heterospecifically with aggregated pig IgG was proved especially in cases with severe form of the disease (73.5 %). The level of the serum immunoglobulins IgG, IgA and IgM was determined by all examined patients. The increased levels of IgG a IgA were found.

RÉSUMÉ

Facteurs d'antigamma-globuline et le niveau IgG, IgA et IgM dans le serum des malades atteints d'une contracture de Dupuytren

M. Noeva, S. Karagantcheva, A. S. Tochkov

On a observé les facteurs d'antigamma-globuline dans le serum de 102 patients atteints d'une contracture de Dupuytren et même prouvé la présence des anticorps réagissant de manière hétérospécifique avec les IgG agrégés du porc, surtout dans les cas graves de cette maladie (73,5 %). Chez tous les examinés on a établi le niveau des immunoglobulines de serum IgG, IgA et IgM. Nous avons constanté le contenu élevé de IgG et IgA.

ZUSAMMENFASSUNG

Antigammaglobulinfaktoren und der Spiegel von IgG, IgA und IgM im Serum von Patienten mit Dupuytrenscher Kontraktur

K. Noewa, S. Karagantschewa, A. S. Toschkow

Es wurde untersucht der Gehalt an Antigammaglobulinfaktoren im Serum von 102 Patienten mit Dupuytrenscher Kontraktur. Wir bewiesen das Vorhandensein von Antikörpern, die mit aggregierten IgG des Schweines heterospezifisch reagieren vor allem in Fällen der schweren Erkrankungsform (73,5 %). Bei allen untersuchten Patienten bestimmten wir den Spiegel von IgG, IgA und IgM. Es wurde ein erhöhter Gehalt an IgG und IgA gefunden.

RESUMEN

Factores de antigamaglobulina y el nivel IgG, IgA y IgM en el suero en los pacientos con la contractura de Dupuytren

K. Noeva, S. Karagancheva, A. S. Toshkov

Fue observado el contenido de los factores de antigamaglobulina en el suero de 102 pacientes afectados de la contractura de Dupuytren. Fue probada la presencia de anticuerpos que reaccionan de manera heterospecífica con las IgG agregadas del puerco, sobre todo en los casos de la forma grave de la enfermedad (73,5 %). El nivel de las imunoglobulinas IgG, IgA y IgM fue determinado en todos los examinados. Un contenido elevado de IgG y IgA fue probado.

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To commemorate 25 years of the activity of the oldest European Tissue Bank in Hradec Králové — ČSSR the scientific meeting will take place in Hradec Králové from 12th to 15th September 1977, organized by Czechoslovak Academy of Science and Regional Institute of Public Health in Hradec Králové.

Programme:

1. Terminology of cryobiology (open discussion of the C-1 Commission of the Inst. Inter. of Refrigeration)

2. Sterilization of tissue grafts by means of ionizing radiation (the collaboration with Int. Atomic Energy Agency is expected)

3. Long-term preservation of tissue grafts (laboratory and / or clinical results)

4. Freeze-drying

5. Miscellaneous

Languages: English, Russian, Czech, Slovak (for 1st items French, too)

Social programme Inquieries: Tissue Bank, Faculty Hospital, 500 36 Hradec Králové, ČSSR.

Grace General Hospital Winnipeg (Canada)
Department of Surgery (Plastic)

PREVENTION OF PARROT'S BEAK DEFORMITY AFTER REDUCTION RHINOPLASTY

N. I. ELSAHY

"Parrot's beak" deformity is probably the most common post-rhinoplasty complication requiring secondary surgery[1-2]. Rees[2] listed the numerous causes of the deformity as follows: (1) high septal border, (2) insufficient trimming of the dorsal borders of the upper lateral cartilages, (3) excessive resection of the alar cartilages domes, (4) insufficient trimming of the septal mucosa, (5) inherent thickness of the skin and subcutaneous tissue, (6) a short columella, and (7) formation of granulation tissue in the dead space between the dorsal skin flap and the septal border. Another cause that may be added to

Fig. 1. Left: The weak triangle is the area between the alar and upper lateral cartilages. — Centre: Resection of the nasal hump is followed by telescoping of the skin on itself in the upper two thirds of the nose and creation of a groove above the nasal tip at the weak triangle. Right: The crosshatched area represents the cartilage graft inserted into place to eliminate the described groove and to prevent postoperatively, the "Parrot's beak" deformity.

Fig. 2. Left: Preoperatively. Right: One year postoperatively. The deformed nasal tip on the left side has been corrected, the nose is shorter and the bridge is straighter after using the procedure described in the text.

the above list is the normal deficiency of cartilage in the area between the alar and the upper lateral cartilages. This area has been termed "the weak triangle" by Converse[3–4].

Since correction of the "Parrot's beak" deformity is very difficult, various methods have been advocated to avoid the formation of this condition. Webster[5] recommends lowering of the septal tip, Wright[6] advises reduction of the nasal tip before reduction of the septal height, while Rees[7] stresses the importance of contracture of granulation tissue in the supratip area. Peck[8] advises maintainance of an intact alar cartilage arch. Pitanguy[9] believes in the presence

Fig. 3. Left: Preoperatively. Right: Nine months postoperatively. The depression in the left side of the nasal tip has been corrected and the small nasal hump has been removed.

of a fibrous ligament between the dermis and the alar cartilages in bulbous nose, and he advocates division of this ligament to prevent supratip swelling. Millard[1] stresses the importance of prevention of hematoma and advocates closure of any dead space with careful post-operative taping of the nasal skin. In reduction rhinoplasty, Skoog[10] routinely reinserts in the nose the removed hump as an osteocartilaginous graft. Immediately after removal of a nasal hump, one notices telescoping of the skin of the dorsum on itself above the level of the weak triangle. At the level of the triangle, however, because of the deficiency of cartilage, the skin tends to form a groove that separates the upper two thirds of the nose from the lower third (Fig. 1). This groove accentuates the projection of tissues immediately above the nasal tip. In addition,

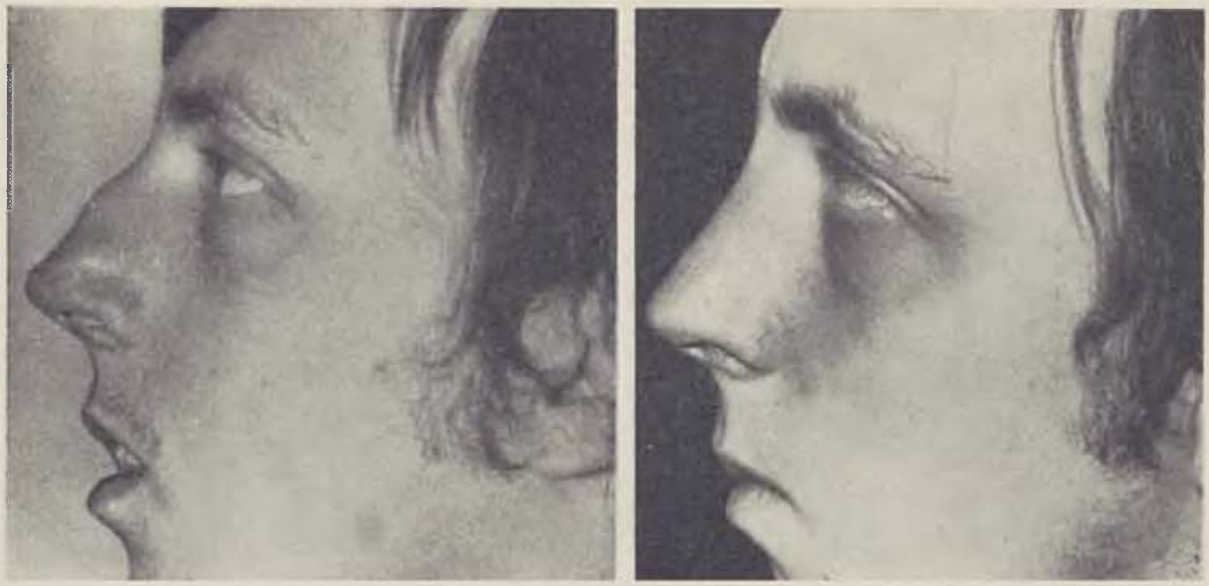

Fig. 4. Left: Preoperatively. Right: Two years postoperatively.

deficiency of cartilage in the weak triangle provides a dead space for the accumulation of hematoma and the formation of granulation tissue that subsequently is replaced with scar tissue causing the "Parrot's beak" deformity.

Filling this weak triangle with an autogenous cartilage graft taken from the nasal hump after its resection eliminates the groove between the upper two thirds and lower third of the nose, and prevents hematoma and scar formation at this location. The technique helps to prevent the formation of "Parrot's beak" deformity.

The graft I have been using consists of the cartilaginous part of the removed hump. Its presence in the tip and in the weak triangle area is not only effective in attaining a good nasal profile, but also in correction of nasal tip deformity (Fig. 2, 3).

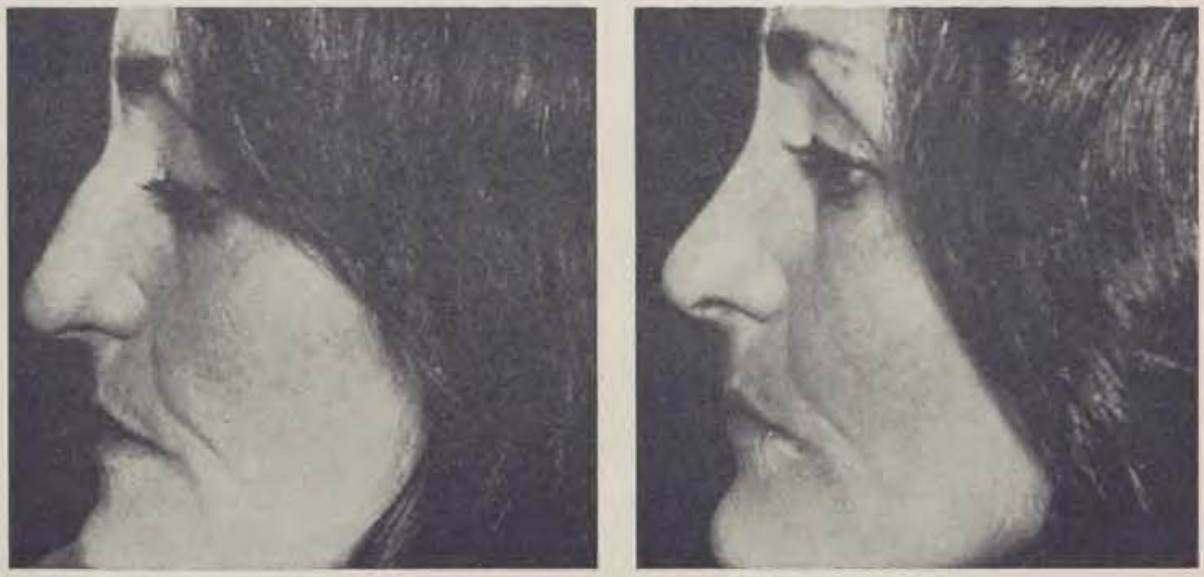

Fig. 5. Left: Preoperatively. Right: Three years postoperatively.

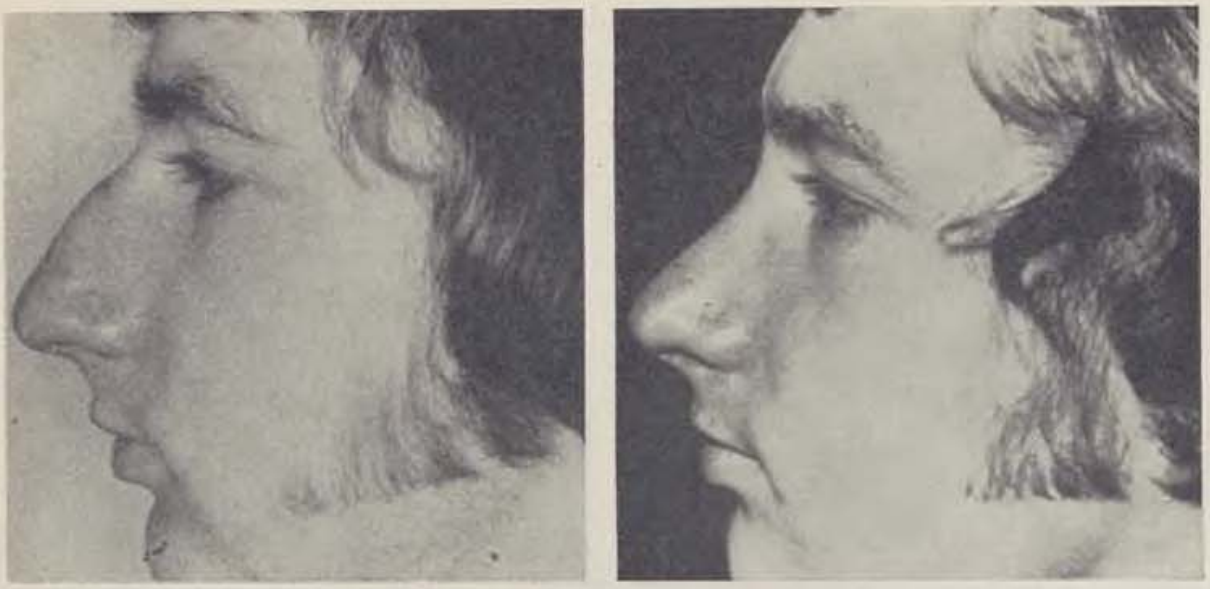

Fig. 6. Left: Preoperatively. Right: Eight months postoperatively.

PROCEDURE

Through a membraneous septal incision, which extends bilaterally as an intercartilaginous incision, the alar cartilages are reduced, the cartilaginous septum is shortened and the nasal hump is removed. After submucous resection and osteotomy of the nasal bones, the cartilaginous part of the removed hump is shaped and replaced as a graft between the cartilaginous nasal septum and the skin of the dorsum of the nose. It extends between the nasal tip and the osteocartilaginous part of the nasal septum (Fig. 1). The graft eliminates any skin groove that may be created just above the nasal tip after removal of the nasal hump, and restores a normal nasal profile. The mucosa is then sutured accurately into position with 4—0 chromic catgut to maintain the graft in place.

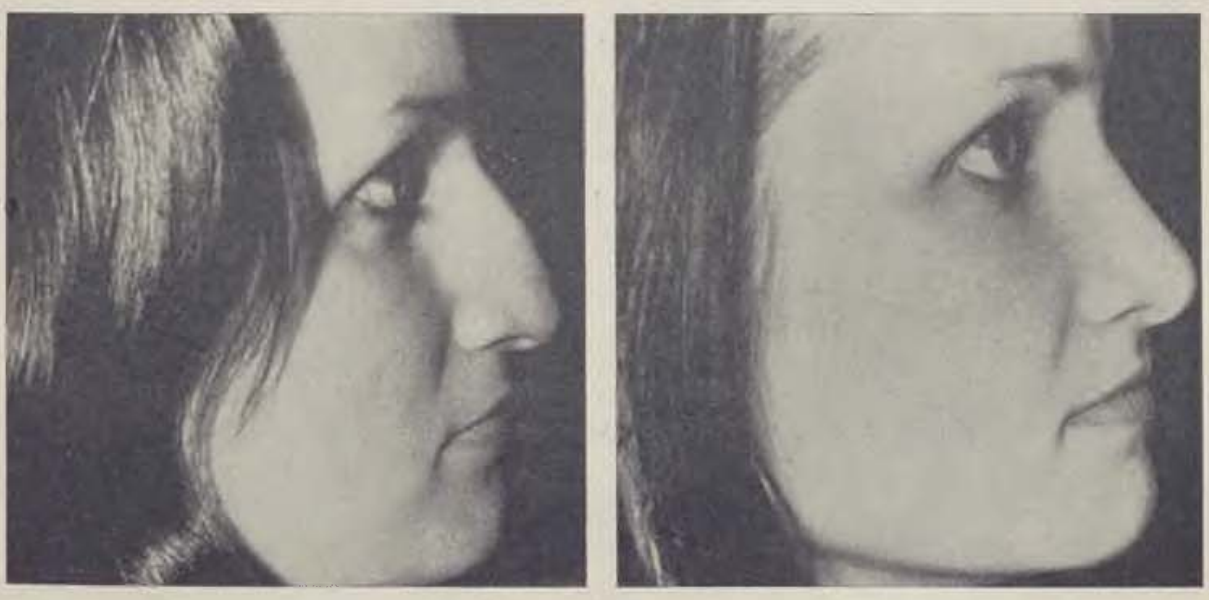

Fig. 7. Left: Preoperatively. Right: Sixteen months postoperatively.

In rare cases, the graft needs to be fixed into place with one or two sutures. A nasal pack and splint are then applied.

DISCUSSION

During the last three years, I have used this technique in ten patients with consistently good results (Fig. 2—8). No infection, no resorption of the graft, nor any sorts of cartilaginous irrregularities has occured in any patient. In addition, the technique has helped to prevent any possibility of the development of "Parrot's beak" deformity.

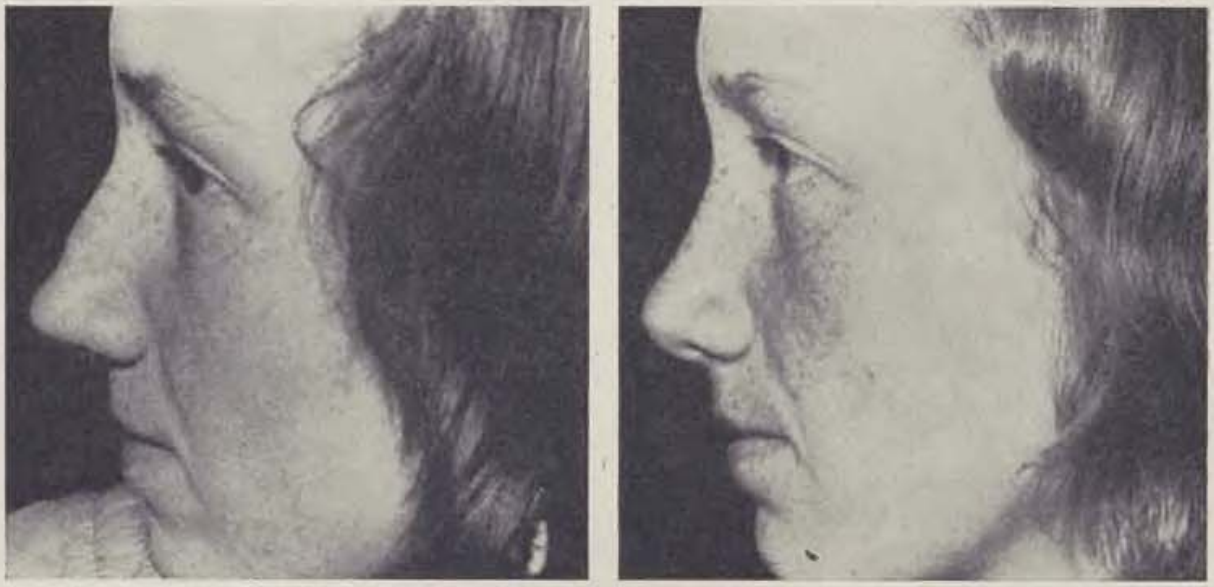

Fig. 8. Left: Preoperatively. Right: One year postoperatively.

Because the "Parrot's beak" deformity is relatively rare, this procedure should be applied only in cases where it is felt during surgery that the "Parrot's beak" deformity is a real possibility.

SUMMARY

Placement in the nose of autogenous cartilages taken from the nasal hump as free grafts helps to prevent "Parrot's beak" deformity after reduction rhinoplasty in cases where it is felt that the deformity is a real possibility postoperatively.

RÉSUMÉ

Prévention des déformations sous forme d'un «bec de perroque» après la rhinoplastie de réduction

N. I. Elsahy

C'est la transplantation libre des martilages obtenus après avoir enlevé la bosse du nez, par laquelle on prévient la déformation du nez sous forme d'un "bec de perroquet" après la rhinoplastie de réduction ce qui fait s'il existe une crainte positive que cette déformation puisse se produire.

ZUSAMMENFASSUNG

Prevention der Deformationen in Form eines „Papageischnables" nach reduzierender Rhinoplastik

N. I. Elsahy

Durch freie Transplantation von Knorpeln, die wir durch das Beseitigen des Nasenvorsprungs gewinnen, verhüten wir das Vorkommen von Nasendeformationen in Form eines eines "Papageischnabels" nach reduzierender Rhinoplastik, und zwar in Fällen, wo reelle Befürchtungen vor dem Entstehen dieser Deformation bestehen.

RESUMEN

Prevención contra las deformaciones en la forma de un „pico de papagayo" después de la rinoplastía de reducción

N. I. Elsahy

Es por la transplantación libre de los cartílagos adquiridos por quitar el bulto nasal por la que prevenimos una deformación de la nariz en la forma de un "pico de papagayo" después de la rinoplastia de reducción, es decir en aquellos casos donde hay que tener miedo de que esta deformación pueda producirse.

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IN MEMORIAM

Early this year the plastic surgeons of Sweden faced a truly sad and difficult task — to inform the specialists all over the world that one of their originators and leading workers in plastic surgery, Prof. Tord Skoog of Uppsala had deceased.

These sad news were painful to all who had known Prof. Skoog, were holding him in great esteem and sincerely liked him.

Tord Skoog was born in 1915 and terminated his medical studies at Uppsala in 1943, having defended his doctor dissertation in 1948. He went through training in general surgery at Uppsala in order to be able to undertake then plastic and reconstructive surgery. After special studies with Prof. Faltin in Finnland, Sir McIndoe and Sir Harold Gillies in England and after work at several places in the USA, he started in 1951 at Uppsala a special Department of Plastic Surgery with 12 beds. By his his preseverance and endeavour he succeeded in the years to follow, to establish at the University Hospital, Uppsala, a new, exemplary, modern and perfectly furnished department with 70 beds, with a special department for therapy of burns, surgery of hands, with extensive index file, library, studies, laboratories and with a perfect place of research. In 1960, Tord Skoog was appointed professor of plastic surgery and young adepts from all over the world came for training to this workplace. These founded a society bearing the name of their teacher and paragon. They were always sincerely looking forward to their joint working, social as well as entertraining mutual meetings at which Prof. Skoog was never missing.

The education of Tord Skoog was deep and wide, he was manually skilled, a most careful operator towards tissue, who fully respected the principles of fine, physiological means of operation.

He was an enthusiastic tutor, good advisor and a friend to all his co-workers and disciples from abroad. In scientific research work too, he was persevering and dilligent. He published hundreds of clinical and experimental reports in specialised journals all over the world and 3 monographs. He published his first report already when still a student of medicine. His further reports were practically connected with the entire branch of plastic surgery. A large group of papers concerns surgery of the hand and there special attention is paid to Dupuytren's contracture. Prof. Skoog was all his life interested in problems of therapy of congenital cleft defects, having published on them more than 30 reports and a book monograph, rather extensive, furnished with perfect documentation. He also focused his interest upon the problems of grafting, of nasal surgery, surgery of the female breast, questions of transsexualism and last not least upon the complicated tasks of burns therapy. He proposed and elaborated several new operational procedures, which will very rightly indeed carry his name. He also wrote chapters into text books for students and into several anthologies published by a group. He was also editor of the proceedings of the First World Congress of Plastic Surgeons, in Stockholm.

Prof. Skoog was an excellent speaker and debater, his lectures were known by their wide knowledge, new thoughts, perfect form and also documentation. He was invited to lecture in many countries all over the world, he was appointed a visiting professor at the universities of Rochester, California, Illinois and New York. He was honorary and corresponding member of many world- and national societies of plastic surgery and he also functioned on several editoriau councils of special journals. He was awarded the V. Kazanjian lecture price in New York in 1967 and in 1969 the Everett Evans Award.

However, Tord Skoog was not only an outstanding specialist but also a very capable organizer. He did great service to the holding of the I. World Congress of Plastic Surgeons in Stockholm and Uppsala in 1955 where he was elected General Secretary of the established World Society. He held the post of secretary till 1959, and developed at that time a considerable effort and spared no strain to learn personally about each already established workplace, helping considerably in the founding of new ones. After relinquishing his function of General Secretary, he remained till 1967 a member of the board of the World Society of Plastic Surgeons and in 1965 he was also elected to the board of the newly established Society for Burn.

Prof. Tord Skoog also visited Czechoslovakia four times. For the first time he arrived in 1956, as the General Secretary of the World Society at our first post-war Symposium with International Participation held at Mariánské Lázně. He arrived being admirably informed on all the work of our great teacher Prof. Dr. F. Burian whome he held in great esteem. During his further visits, when he arrived as a good and most sincere friend, he not only held lectures but he was interested in the work at all our workplaces in Prague, Brno and in Bratislava.

At the occasion of the II. World Congress of Burns in 1970, he was awarded honorary membership of the Czechoslovakian Medical Society J. E. Purkyně which held him in great esteem, in the great assembly hall of Charles University in Prague.

Tord Skoog always welcomed our workers most heartly and extended his friendly hand chiefly to young disciples who came to study at his Department. He always manifested sincere interest in our work, readily exchanging with us publications as well as his rich experiences and gladly sat down with us for a friendly discussion,

always merry and entertaining. He never missed at world forums of specialists to recall the importance of our teacher Prof. Burian in the development of world plastic surgery especially in the problems of cleft defects.

Prof. Tord Skoog was not only an outstanding plastic surgeon, but also an unassuming, good and kind person with wide cultural interests. He was a loving husband and father, who succeeded after premature, sudden death of his young wife to maintain for his children a beautiful family environment, being their example, adviser and comrade.

It is impossible to forget the fine, serious expression of his boyish face, when during inspection of the traces of the old Swedish wars in Prague he asked — why people then, but even to-day too still solve disputes by war, why they do not respect each other mutually, trying to understand each other and living in permanent peace?

Honour to the memory of such a beautiful man as Prof. Tord Skoog was, whom nobody who knew him, can ever forget.

Prof. MUDr. H. Pešková, DrSc.

II. National Congress of Bulgarian Plastic Surgery in Sofia

The Section of Plastic Surgery and Burns, Bulgarian Surgical Society, organized on the days of October 20th and 21st 1976 in Sofia its second all-state conference.

The chief themes were "The Therapy of Burns in the Toxic Infectious Stage", "Treatment of the burned hand" and "Varia". The Conference was held at the new Department of Burns and Plastic Surgery, "Pirogov" Institute in Sofia. It was presided by Prof. D. Ranev, M.D., Jointly with the Bulgarian physicians also 60 guests from abroad from the USSR, USA, Czechoslovakia, GFR, France, Sweden, Hungary, Poland and Yougoslavia participated with their reports and scientific communications.

The entire Conference was excellently organized and the scientific level was high. The pharmaceutical firms — Medexport (USSR), Interned (GDR), Medimpex (Budapest), Pharmachim (Sofia), Gödecke (GFR), Park and Davis (USA) and Pharmacia (Uppsala) exhibited their products. The cultural programme was arranged most interestingly and was well chosen.

It was the wish of many participants that one of the Congresses of Plastic Surgery and Burns should be held in Bulgaria.

K. Troshev, M.D., CSc.

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