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HEALING OF BONE DEFECT IN THE NASAL CAVITY FOLLOWING APPLICATION OF CARTILAGINOUS PLATE

J. KRAJNIK, M. GAWRONSKI, S. KNAPIK,
B. JACHIMOWICZ, J. RAKOWSKI

The essential point in the described method of treatment of secondary palate clefts is the application of lyophilized cartilaginous plate collected from calf's ensiform process (3, 4). To explain this, the details of surgical procedure will be presented briefly because the latter has been essential for the current study.

Description of the surgical method carried out in children with palate clefts. Following the detachment of soft tissue from bone, the edges of bone defect and bottom mucosa of nasal cavity were sanguinated. In next step bone defect and its margines were covered with cartilaginous plates introduced subperiosteally. Vomer mucosa was not used for reconstitution of the bottom of nasal cavity. Such a management protects growth centres of maxilla from destruction. Bone defect of the bottom of the nasal cavity is filled up by lyophilized cartilaginous plates. Control examination of the children treated in this way have shown that the tissue defect was covered by the epithelized connective tissue.

The aim of our study was an examination and explanation of the healing process in the bottom of the nasal cavity defect filled up with the lyophilized cartilage.

MATERIAL AND METHODS

Nine, one year old mongrel dogs were used. Animals were divided into three groups, 3 in each. They were anesthesized intravenously by means of thiopental the quantity of which was proportional to animal body weight.

SURGICAL PROCEDURE

The soft tissues of the palate were cut along teeth arch and in the middle line the mucoperiosteal flap was detached from the bone. The oval 1,5 cm long and 1 cm wide defects were made in both bone and nasal mucosa. The cartilage plate covered the bone defect and the surface of uncovered bone. The palatal soft tissues were sutured. Dogs were observed for 6, 14 and 21 days. In two first days the animals were fed milk liquid diet and then received normal food. Wounds have healed without complications.

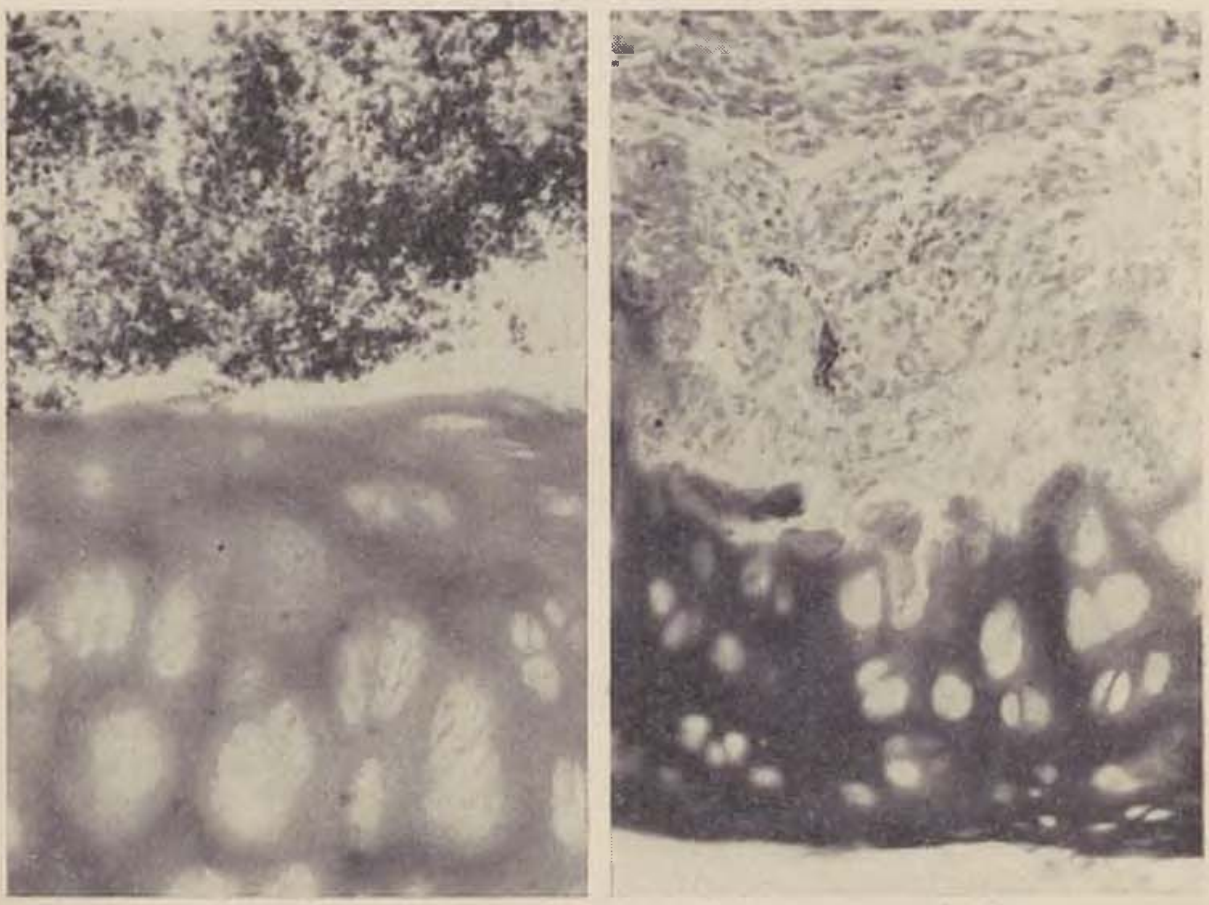

Fig. 1 — sixth day of observation — the cartilage plate was covered with thick layer of fibrillary exudate H + E, 150×. — Fig. 2 — in the 14th day of study the surface of cartilaginous graft was covered with moderately thick layer of richly cellular connective tissue with collagen fibers. Azan, 150×

Tissue blocks from the palate were collected for histological studies. They were fixed in Baker solution, decalcified in 5% EDTA, embedded in parafin and cut on 6 μ sections. For histological evaluation all sections were stained with hematoxylin and eosin, for mucopolysaccharides by periodic acid-Schiff reaction and by azan method.

RESULTS OF HISTOLOGICAL STUDIES

In the sixth day of observation, the cartilage plate from both palatal and nasal sides, was covered with thick layers of fibrillary exudate and mixed clot. From the edges of nasal epithelium the beginnings of the clot organisation were seen (Fig. 1). The granulomatous process was also considerably progressed from connective tissues of the palate up to the cartilage. PaS reaction has shown weakly positive accumulation of PaS-positive material within grafted cartilage matrix and within eipthelium of the nasal cavity.

In the 14th day of study the surface of cartilaginous graft was covered with moderately thick layer of richly cellular connective tissue with collagen fibers and blood vessels (Fig. 2). The deeper layers of connective tissue have shown few cells and were rich in collagen fibers. The connective tissue penetrated into cartilage plate from the nasal side. Under the normal epithelium which covered bottom of nasal cavity we could see a greater number of blood vessels than in other areas (Fig. 3). The palatal connective tissue was rich in fibroblasts, collagen fibers and was covered with normal epithelium. After 21 day follow up the layer connective tissue above cartilaginous graft was thicker, than in the former period of observation (14th day). The deep lacunae in the cartilage plate were filled up with the connective tissue (Fig. 4). The connective tissue above the graft covered normal epithelium under which, the large number of blood vessels was seen.

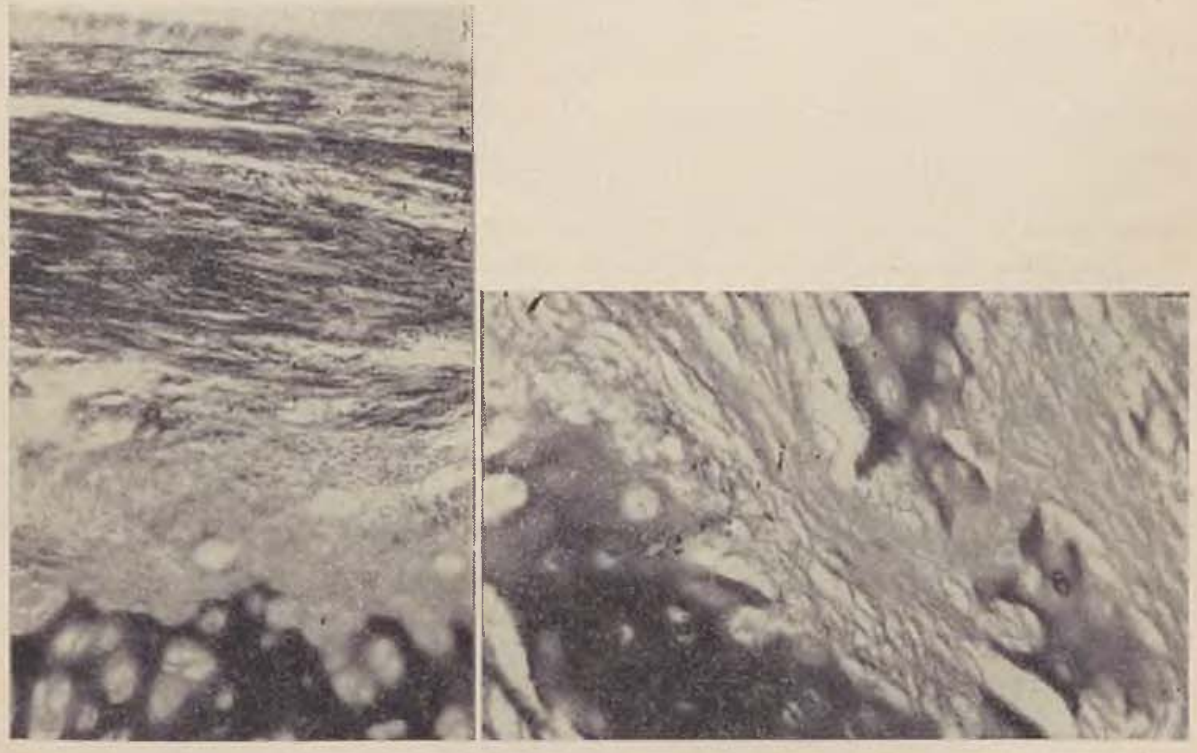

Fig. 3 — in the 14th day of observation the graft from the nasal side was covered with richly cellular connective tissue and normal epithelium. Azan, 150×. — Fig. 4 — 21st day of observation — the deep lacunae in the cartilage plate were filled up with the connective tissue. Azan, 200×

DISCUSSION

The aim of this study was an attempt of explanation of healing process of tissue defect in the bottom of nasal cavity after filling up by lyophilized cartilaginous plate uncovered by soft tissue. It is known that soft tissues protect dead ones from infection and trauma. Infection of graft leads to liquefaction and disposal of grafted tissue. Our morfological and clinical studies (3, 4) have demonstrated that denuded cartilaginous graft was not infected because has been covered by quickly organising coagulum. It was also supported by our previous experiments on dogs. In the latter cartilaginous graft introduced into palatal bone defect was observed in 2, 4 and 6 week intervals. The mentioned studies differ from the current ones in the later periods of observation of healing process.

In the experiments caried out in 1965 (10) we have found that cartilage was replaced first by fibrous connective tissue and later by bone. Similar observations were made by Herfert (2). The latter author, in children with clefted palate, filled up defect of palatal bone by means of autologus bone shavings. He reconstructed the bottom of nasal cavity by means of autologus cartilage which he covered by the mucosa taken from vomer. X-ray examination carried out after several years revealed presence of bone in the site of grafted cartilage. He thought that cartilage had transformed into bone tissue. Our experimental studies have shown that the cartilage has been resorbed and replaced by ossifying connective tissue and later by bone. In the described region this process is very slow, because it is dependent on vascularisation of this area. During slow resorption of cartilage N-acetyl-glucosamine is released which, according to Prudden (7, 8, 9), stimulates surrounding tissue to renewal.

In our surgical procedure both in children and in dogs the margins of bone defect were freshened in order to produce vital surface. After visualisation of the spongiose, cellular elements of connective tissue quickly penetrated into coagulum covering cartilaginous surface. The granulation tissue formed in the site of coagulum was covered by epithelium budding from the margins of refreshed nasal mucosa. The described changes in the cartilaginous graft and its vicinity are also evidenced by lacune-like defects filled up by fibrous connective tissue. Similar observation has been also made in palatal surface of the cartilage covered by soft tissues.

It is known that in the presence of bone graft used in order to stimulate wound healing elastic scar is formed (1, 5, 6, 7, 9). We have made similar observations in operated children. In the treatment of hard palate cleft with the application of cartilaginous plate we noticed much weaker action of scars hampering growth of maxilla. After surgery the scar is produced in the side of contact of cartilage and bone as well as in the side of detachment of soft tissues between periosteum and the surface of cartilage. The evidence of elastic scar is the absence or only minute disturbances of occlusion in the region of molars. We have not seen also formation of high palate which is apparently result of contractive scars.

SUMMARY

The authors studied healing process in the bottom of the nasal cavity defects filled up with the lyophilized cartilage. The experiments were made on one year old dogs. Dogs were observed for 6, 14 and 21 days after operation. Morphological studies have shown, that denuded cartilaginous graft was not infected because it has been covered by quickly organising coagulum and next by epithelium budding from the margins of refreshed nasal mucosa.

RÉSUMÉ

Guérison du défaut nasal dans la cavité nasale après avoir appliqué une lamelle cartilagineuse

Krajnik J., Gawroński M., Knapik S., Jachimowicz B., Rakowski J.

Les auteurs ont étudié le décours de la guérison d'un défaut situé dans la base de la cavité nasale. Ils l'ont rempli par le cartilage lyophilisé. Les expériences ont été faites sur les chiens d'un an qui étaient observés pendant 6, 14, 21 jours après l'opération. Les études morphologiques ont démontré que la greffe cartilagineuse découverte n'avait pas été infectée parce qu'elle était couverte par un coagulum se organisant très vite et puis par l'épithélium qui se développait à partir des bords de la plaie dans la muqueuse nasale.

ZUSAMMENFASSUNG

Heilung eines Knochendefektes in der Nasenhöhle nach der Applikation einer Knorpelscheibe

Krajnik J., Gawroński M., Knapik S., Jachimowicz B., Rakowski J.

Die Autoren untersuchten die Heilung eines Defektes in der Base der Nasenhöhle, die sie mit lyophilisiertem Knorpel gefüllt haben. Die Versuche unternahmen sie an einjährigen Hunden, die sie während 6, 14 und 21 Tagen nach Operation beobachtet haben. Morphologische Studien zeigten, dass das entblösste Knorpeltransplantat nicht infiziert wurde, da es von einem sich schnell organisierenden Koagulum und dann von dem Epithel bedeckt wurde, welches sich vom Rand der Wunde in der Nasenschleimhaut her entwickelte.

RESUMEN

Sanación de un defecto óseo en la cavidad nasal después de la aplicación de una lámina cartilaginosa

Krajnik J., Gawroński M., Knapik S., Jachimowicz B., Rakowski J.

Los autores estudiaron el transcurso de la sanación de un defecto en el fondo de la cavidad nasal la cual habían llenado de un cartílago liofilisado. Los experimentos fueron performados en perros de un año de edad que fueron observados durante 6,

14 y 21 días después de la intervención. El estudio morfológico mostró que el trasplante cartilaginoso descubierto no fue infectado porque fue cubierto de coágulo que rápidamente se organizaba y más tarde de epitelio que se desenvolvía desde los bordes de la herida en la mucosa nasal.

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J. Krajnik, M.D., Medical Academy, Dept. of Stomatological Surgery, Poznań, Poland

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The MIR Y MIR Prize for residents was ceremonially handed over at the last assembly of the Spanish Society for Plastic-repair and Cosmetic Surgery to Dr. D.C. Casado Perez from the department of plastic surgery (Dr. B. Vilar Sancho) of the Ramón y Cajal Specialized Centre (Madrid) in appreciation of his "Venous Grafts in in Vascular Microsurgery;an Experimental Study".

The idea behind the annual MIR Y MIR — 1000 $ Prize is to give encouragement to young surgeons and to commit specialists to participation (representative of Spain) in the contest for the International Prize of the Iberian-Latin-American Plastic Surgery Foundation which is held every other year. The next competition is scheduled to take place in Guadalajar (Mexico) towards the end of 1978.

We wish Dr. Casado a repeat of his success on Aztec territory.

J. E. Purkyně University, Medical Faculty, Brno (Czechoslovakia)
Clinic of Plastic Surgery
Head Prof. V. Kubáček, M.D., DrSc.

MICROVASCULAR SURGERY IN EXPERIMENTS

J. JAKUBÍK, J. SAMOHÝL, J. VÁLKA, A. NĚMEC

By the year 1976, vascular microsurgery has scored 16 years of existence as a surgical branch. In 1960, Jacobson and Suarez used an operating microscope for the first time performing arterial embolectomy and endarterectomy in an intracranial aneurysma. In 1967, Donaghy accomplished an arterial shunt having sutured extra- and intracranial vessels. Thus the operating microscope, a valuable modern device, entered a new field of application: from ophtalmological, otological and neurosurgical procedures to developing microsurgery of small sized vessels. It is by no means an unknown device: it was used in 1923 by Holmgren in an operation of otosclerosis. Dozens of years had passed before its manifold usefulness was recognized and spread. It was not until 1963—1964 that extremely thin sutures with atraumatic needles were manufactured which made possible to suture successfully a vessel of about 1 milimeter in diameter. Buncke and Schulz introduced these sutures in 1965 into practice. A rapid development of a new exciting branch followed. Production of fine and strong sutures with atraumatic 19—22 microns needles (0.10, 0.11) rendered possible anastomoses of very thin vessels. Microinstruments appeared: microforceps, microscissors, microneedleholders, vessel clamps, etc. An increasing number of surgeons in the whole world became acquainted with these discoveries that opened up new vistas.

The microsurgical technique of vessel anastomosis makes operations possible that could not be performed by any other methods. Replantation of avulsed fingers in adults as well as in children represents the first great achievements of microvascular surgery Cobbett, 1969. Another revolutionary achievement was a large skin and subcutaneous tissue flap transfer to a remote defect Harii, 1973; the surgery is carried out in one stage contrary to the former step — by — step procedures, time consuming and complicated. The principle is that the vessels of the flap are anastomosed to the vessels of the recipient area. Muscle transfers on this basis improved the function as well as cosmetic results in facial nerve paresis.

Microsurgery represents a qualitative leap in modern surgery; traumatic lesions can be treated with precision and economy.

The Clinic of Plastic Surgery in Brno soon realized the importance of microsurgery on the basis of data published in medical periodicals. A careful practising of anastomosing vessels and nerves in animals has been considered the first necessary step; technical difficulties in providing the necessary equipment postponed the start towards the end of 1975.

Fig. 1. The operating team handling the operating microscope of Polish make

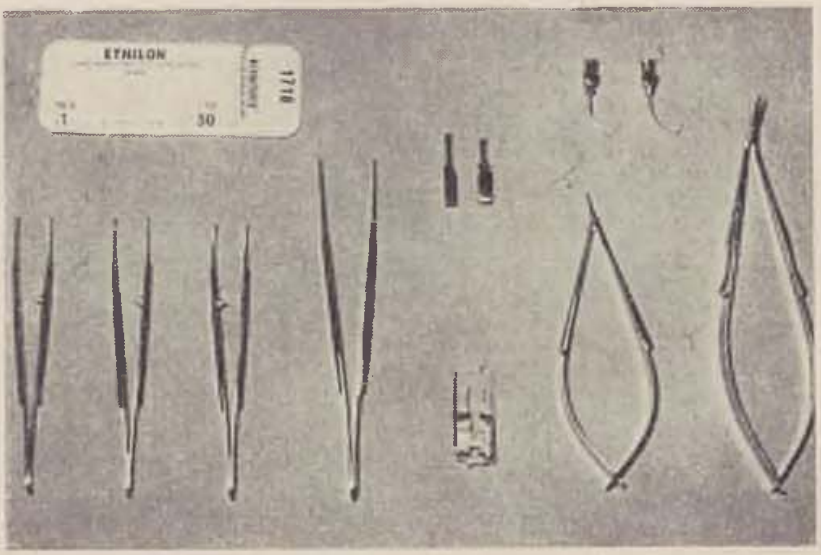

Fig. 2. Equipment and sutures used in our experiments

METHOD AND TECHNIQUE

During operations, an 8—120 power microscope of Polish or Zeiss-Jena (GDR) make is used (Fig. 1) with a single pair of oculars so that the assisting surgeon must content himself only with magnifying eye glasses — this being a disadvantage of this useful

apparatus. Another pair of oculars may be ordered from the manufacturer. Another drawback is caused by fixed magnification power during taking photos; in our opinion, it is not high enough so that many details are lost. That made us take photos by kolpophot, which is time consuming and requires additional manoeuvres. Equipment see Fig. 2.

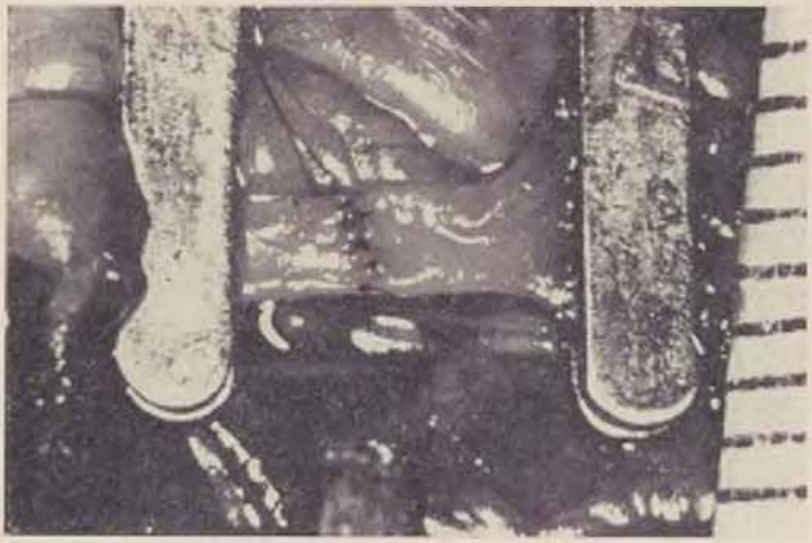

Fig. 3. A detail of a sutured aorta in the rat

Fig. 4. Sutured femoral artery and vein in a rabbit. Note the patency of both anastomoses

The needle holder, scissors and forceps are originally a neurosurgical equipment. The clamps we use do not satisfy our requirements exerting a considerable pressure so that intimal demage cannot be excluded. Their tips are held in 8 mm distance — which we consider optimal — by means of a soldered metal strip. In the near future clamps with a fine screw setting the distance will be available.

The anastomoses of vessels and nerve fascicles are performed with monofile atraumatic Ethilon (Ethicon, Edinburgh, 0.10).

Experiments are carried out on rats under thiopentone intraperitoneal anaesthesia. The aorta and the cava inferior are exposed by laparotomy; the cava inferior is often damaged being closely connected to the aorta. Blood losses may endanger the whole procedure as the recovery from anaesthesia is prolonged and arterial thrombi are likely to occur above the clamps thus blocking the anastomosis.

After the clamps are placed, the aorta is severed and then sutured end-to end. First, two stay sutures are applied on both poles of the circumference. These threads are fixed by microclamps and the cut aortal ends are held in position by a pair of clamps. Anastomosis is then carried out by interrupted suture. 8 to 12 stitches are used

Fig. 5. A groin-flap designed on the skin; elevation of the flap, the vascular fascicle (a. circumflexa iliaca superf., a. and v. epigastrica superf.)

for an aorta of 1,5—2 mm in diameter. After suturing has been completed, the clamps are removed and possible oozing of blood is checked under the microscope; if necessary, a stitch is added (Fig. 3). Some oozing of blood was observed in every case; in all instances it was controlled by applying pressure. Neither fibrin nor oxycellulose have been used so far.

Nowadays, anastomosis of the abdominal aorta requires some 30 minutes; sooner it required much more time. Also the tightness of the anastomosis has improved with practice. A problem that has not been solved yet is frequent thrombus formation in the place of the cranial clamp so that peripheral pulsation is weak.

At present we have advanced to sutures of femoral arteries and veins in rabbits. Experience gained by experiments performed on rats made it possible to suture the rabbits' vessels without major difficulties. Fig. 4 presents sutured femoral artery and vein in a rabbit (weight 1,6 kg).

As a further stage of preparative measures taken before microvascular surgery can be used in clinic, a groin-flap (Daniel and Taylor, 1973) was raised in a dead human body. The flap involves skin and subcutaneous tissue supplied by the a. epigastrica superf. and a. iliaca circumflexa superf.; these arteries and accompanying veins are separated. Owing to many variations of these vessels and their branches a painstaking practising is necessary (Fig. 5).

The technique of anastomosing vessels in human palmar region was also practised in a dead body. Suture of digital arteries were hermetic as was proved by colour instillation. Suturing of separate fascicles of the median nerve in the palm posed substantially less problems than suturing of vessels.

DISCUSSION

The intima of a 1 mm vessel could be damaged by excessive pressure exterted by clamps. A tolerable pressure could be 10—20 g. It is our intention to have all our clamps adjusted to that limit. We have not administered heparine solution so far; the majority of authors do not use heparine solution for vessel perfusion. Wetting of cut ends with heparine solution is considered for the sake of thrombosis prevention. Use of rheodextran seems to be advantageous. The improving of anastomoses of veins, extremely important in groin flaps, are the next step of our practice.

CONCLUSIONS

It is impossible to achieve skill in microsurgery of small diameter vessels without proper and regular practice — it is an important condition before new methods are introduced into practice.

In our opinion a considerable part of experimental work has been already mastered at our Clinic in operations on rats and rabbits even if these animals pose several problems (fragility of the cava inferior, retraction of aortal ends which impede anastomosis etc.); in general they represent a satisfactory model for microvascular surgery performed under the microscope. After several technical problems have been solved the microvascular anastomosing will be adopted in man.

SUMMARY

The article deals with practising of small diameter vessel (1 mm) anastomosis in rats, rabbits and dead bodies. The necessary equipment is described and several problems pertaining to those experiments are discussed.

RÉSUMÉ

Chirurgie microvasculaire dans une expérience

Jakubík J., Samohýl J., Válka J., Němec A.

Dans le travail, on décrit l'entraînement de la suture des vaisseaux à diamètre 1 mm environ sur les rates, les lapins et sur le cadavre. On présente la description des instruments employés et on discute quelques problèmes les quels on a rencontrés pendant l'expérience.

Il est nécessaire d'augmenter l'adresse et l'habilité en s'entraînant continuellement sur les animaux d'expérience et sur le cadavre. Nous croyons que — dans le future proche — il sera possible de proceder à l'usage de la technique microchirurgicale de la suture des vaisseaux dans la clinique, surtout dans les replantations des doigts.

ZUSAMMENFASSUNG

Mikrovaskuläre Chirurgie im Experiment

Jakubík J., Samohýl J., Válka J., Němec A.

In der Arbeit beschreibt man die Einübung der Sutur von Gefässen mit einem Durchmesser von ca 1 mm an Ratten, Kaninchen und an der Leiche. Das gebrauchte Instrumentarium wurde beschrieben und einige Probleme, die im Verlauf des Experiments aufgetreten sind, wurden diskutiert.

Es ist unerlässlich die Gewandtheit und das Können durch ständiges Training an Versuchstieren und an der Leiche zu erhöhen. Wir sind der Meinung, dass wir in allernächsten Zeit an die Anwendung der mikrochirurgischen Technik der Naht von Gefässen in der Klinik, besonders bei Fingerreplantationen herantreten können.

RESUMEN

Cirujía microvascular en un experimento

Jakubík J., Samohýl J., Válka J., Němec A.

En esta obra se describe el entrenamiento de recoser los vasos de diámetro de aproximadamente 1 mm en ratas, conejos y en un cadáver. Está presentada la descripción de los instrumentos usados y se discuten algunos problemas los que el experimento ha encontrado.

Es preciso elevar la destreza y habilidad por entretar en animales experimentales y en un cadáver. Suponemos que muy pronto podamos proceder a usar la técnica microquirúrgica de recoser los vasos en la clínica, sobre todo en la replantación de los dedos.

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VELOPHARYNGEAL INSUFFICIENCY IN CHILDREN WITH SEDLÁČKOVÁ 'S SYNDROME

J. KRUK, J. TRONCZYNSKA

In 1955 Sedláčková described a syndrome of congenital anomalies of mesodermal — ectodermal dysplasia type (5). The main feature of the syndrome is velopharyngeal insufficiency due to various degrees of development anomalies of the palate. Besides, the patients may present multiple development craniofacial deformities, among them very narrow nasal ducts, flattened philtrum of upper lip and microgenia. Both aural conchae often are small, nearly of square shape and ear external meatuses are narrow. The sense of hearing is proper. Some patients have dry and thin skin and there occur hair growth disturbances. The hair is dry, and stiff and bald spots are occasionally observed. The patients are of rather tall stature. The limbs are slim, fingers long and slim with defects of articuloskeletal system. In a number of patients there coexist different anomalies of the whole skeleton. Occasionally mental retardation appears.

All those numerous and extensive mesodermal and ectodermal tissue lesions prove an early injury of embryo, most probably by an unknown external factor. There have been no publications of familiar occurence of such a complex of congenital anomalies.

At present, the Centre for Development Defects Treatment at the Plastic Surgery Department of Medical Academy in Łódź has over 4000 patients with different development anomalies under its care. The three of the patients show symptoms of Sedláčková's syndrome. First case: (B. B.) a 23 year old woman. She was hospitalized in the Department of the Plastic Surgery at the age of 10 because of the open rhinolalia and perturbations of speech articulation connected with congenital shortening of soft palate without cleft.

The speech development was retarded; it started at the age of 3 with proper mental development. Apart from that, anomalies of aural conchae and limbs have been observed. At present there have also been found anomalies of lumbar spine and discopathy and thrombocytopenia. During the first stay of the

Fig. 1a, b. Patient B. B. with velopharyngeal insufficiency without cleft palate

patient at the department pharyngofixation together with application of pharyngeal low pedunculated flap was performed. After the operation the patient attended logopedic exercises. The improvement of articulation and decrease of open rhinolalia were achieved.

The second case: (S. G.) 23 year old woman treated at the department from the sixth month of her life to the age of 18 because of cleft lip, alveolar process and palate on the left side. Apart from that, typical features of Sedláčková's syndrome have been observed concerning hair, skin, face, shape of aural conchae and limbs. The treatment consisted of cleft lip and palate operation with push-back method and surgical correction of the nose. The cleft palate

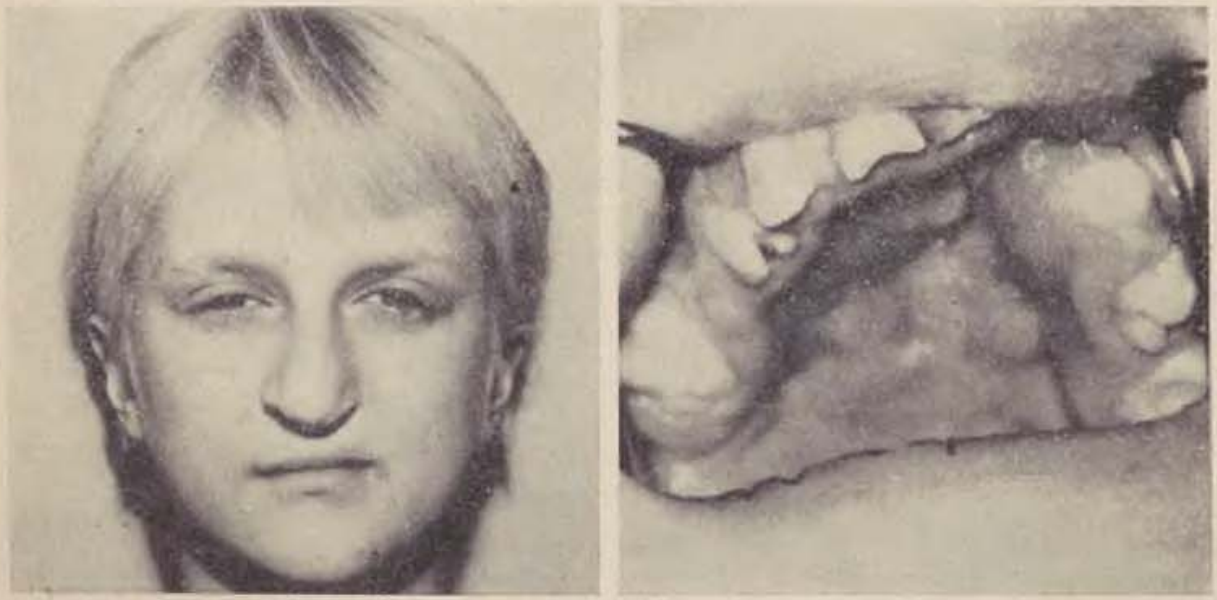

Fig. 2a, b. Patient S. G. with unilateral cleft lip and palate after the operation

operation was carried out at the age of four. For several years orthodontic and phoniatric treatment was applied with good results.

The most serious case of cleft defect has been observed in 18 year old male patient, treated at the department since he was one year old. The dominant defect is bilateral cleft lip and palate, together with prominent protrusion of premaxilla and microgenia. Apart from that, all the symptoms of Sedláčková's syndrome i.e. malformation of the cranium and hands, stiff and dry hair with large bald spots in parieto-occipital region were stated.

The treatment consisted in cleft lip and palate operation with the application of push-back method and correction of the nose shape. The cleft

Fig. 3a, b. Patient K. G. with bilateral cleft lip and palate (after the operation) and with other typical anomalies of Sedláčková's syndrome

palate operation was performed at the age of 3. Orthodontic and phoniatric treatment was applied as well. The speech articulation is clear with slight open rhinolalia only.

The three patients with Sedláčková's syndrome who had been treated in our departments show different morphological types of congenital velopharyngeal insufficiency with disturbances of palate development. The closure of cleft palate with simultaneous push-back of soft palate was applied as the surgical treatment in 2 cases. The case of congenital shortening of soft palate was treated by the surgical narrowing of the nasal-pharyngeal gap through the application of pharyngeal flap suttured into the soft palate. Supplementary phoniatric treatment enabled to improve the speech articulation and to diminish open rhinolalia.

The patients with velopharyngeal incompetence particularly without cleft palate come usually to the laryngologist or phoniatrist most often because of speech disturbances of the type of open nasality. The close cooperation of the

phoniatrist and plastic surgeon makes possible to choose the right surgical method and a correctly performed operation and subsequent logopedic exercises makes a complete speech rehabilitation in most cases possible. A very careful examination of the patient with observation of coexistatnt minor malformations may contribute to the still scarce knowledge of various types of mesodermo-ectodermal dysplasia (1, 2, 3, 4).

SUMMARY

The authors described 3 cases of Sedláčková's syndrome presenting the generalized mesodermo-ectodermal dysplasia. The main feature of the syndrome was velopharyngeal insufficiency due to onderdeveloped or cleft palate. Each of the observed patients presents morphologically different type of velopharyngeal insufficiency (shortening of the velum without cleft palate, unilateral cleft lip and palate and bilateral cleft). Apart from that all the patients show mesodermo-ectodermal anomalies of different degree.

RÉSUMÉ

Insuffisance vélopharyngienne chez les entfants avec le syndrome de Sedláčková

Kruk J., Tronczyńska J.

On a décrit trois cas de syndrome de Sedláčková lequel représente la dysplasie mésodermo-ectodermale. Le signe principal du syndrome était l'insuffisance vélopharyngienne en connexion avec un développement défectueux ou une fissure du palais. Les malades suivis présentaient de divers types d'insuffisance vélopharyngienne (voile du palais sans fissure du palais, fissure unilatérale de la lèvre et du palais, fissure bilatérale). En outre, tous les malades étaient atteints d'une anomalie mésodermo-ectodermale des différents degrés.

ZUSAMMENFASSUNG

Velopharyngeale Insuffizienz bei Kindern mit dem Syndrom von Sedláčková

Kruk J., Tronczyńska J.

Es wurden drei Fälle des Syndroms von Sedláčková beschreiben, das eine generalisierte Mesodermektodermdysplasie darstellt. Das Hauptmerkmal des Syndroms war velopharyngeale Insuffizienz in Verbindung mit detektiver Entwicklung oder Spalte des Gaumens. Die untersuchten Kranken wiesen verschiedene Typen velopharyngealer Insuffizienz auf (verkürzter Weichgaumen ohne Gaumenspalte, unilaterale Lippen- und Gaumenspalte, bilaterale Spalte). Ausserdem zeigten alle Kranke verschiedene Grade der Mesodermektodermdysplasie.

RESUMEN

Insuficiencia velofaringeal en los niños con el síndrome de Sedláčková

Kruk J., Tronczyńska J.

Están descritos tres casos del síndrome de Sedláčková que representa displasia mesodermo-ectodermal generalizada. El rasgo general del síndrome fue insuficiencia velofaringeal en relación con evolución defecta o con una fisura del paladar. Los pacientes observados presentaban varios tipos de insuficiencia velofaringeal (paladar blando acortado sin fisura del paladar, fisura unilateral del labio y del paladar, y fisura bilateral). Además de esto todos los pacientes tenían anomalias mesodermo-ektodermales de vario grado.

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Mayall, R. C.: **Síndrome de Hiperostomia.** (Hyperstomic Syndrome.) Villani Filhos Ltda., Rio de Janeiro, 1976. 164 pp., 72 figures.

The hyperstomic syndrome was defined by Pratesi in 1955 as a deviation of the blood stream via arteriolo-venular communications, i.e. a wide anastomosis of arteries into veins; hence the term hyperstomy — (hiperstomia in Portuguese). Extremities affected by this syndrome suffer from blood circulation insufficiency with manifestations similar to those in insufficiency conditioned by arterial occlusion. Unlike the latter there is preserved pulse, an absence of vascular spasms, and free, angiographically detectable blood flow through the peripheral arteries. The diagnosis and therapy of these states are given a comprehensive treatment in the monograph. Mayall proceeds from his profuse experience of the diagnosis and treatment of his own 23 cases. The most important diagnostic method, ateriography, can accurately pinpoint the shunt site and determine the extent of arterio-venous communication, which is essential for target-oriented surgical treatment. An angiographical examination is also indispensable for distinguishing these states from congenital arterio-venous fistulas, ischaemic disease due to arterial obliteration, acrocyanosis, erythromelalgia, and soft-tissue tumours. Aetiological factors conducive to the

Continuation on the p. 33

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OUR EXPERIENCES WITH THE PLASTIC CORRECTION ON THE UPPER EYE-LID AFTER ENUCLEATION OF THE EYE

O. RIEBEL

The removal of an eye does not only mean loss of sight to the patient, but it also manifests itself unfavourably from the cosmetic point of view. This condition has an adverse effect, above all, on the psyche of young people, especially women, but according to the experience of ophthalmologists and opticians people of advanced years are also not exempt. A well chosen, if need be, individually prepared eye prothesis removes these effects of eye enucleation only in part and not perfectly.

The main cosmetic imperfections after eye loss and its replacement by an eye prosthesis manifest themselves in two ways.

1. by the restricted movement of the prosthesis,

2. by the occurrence of an obvious deep groove of the upper eyelid.

Restriction of mobility of the eye prosthesis can be partially treated and improved by using various types of submerged and half-submerged implants (1, 2, 3, 4). In order to remove this deficiency, the patient can himself, to a considerable degree, help by avoiding extreme viewing positions and compensating for this by turning his head.

The solution of the second imperfection, treatment of the deep groove of the upper lid, is the subject of the following proposed curative method. I have not found any note dealing with this problem in either home or overseas literature from the field of ophthalmology or plastic surgery.

The cause of this deep groove in the upper lid is schematically illustrated in pictures 1—2.

Picture 1 represents a schematic section through the orbit and eyeball and should accentuate the position of the upper lid and its tarsal plate, together with and following in the same direction as the levator of the upper lid.

Picture 2 illustrates a section of the orbit after enucleation of the eye and the cause of the deep groove of the upper lid. Retraction of the levator of the upper lid, occuring after enucleation of the eye, results in a change in the position of the tarsal plate of the upper lid and leads to the creation of a groove which draws the skin of the lid under the upper edge of the orbit.

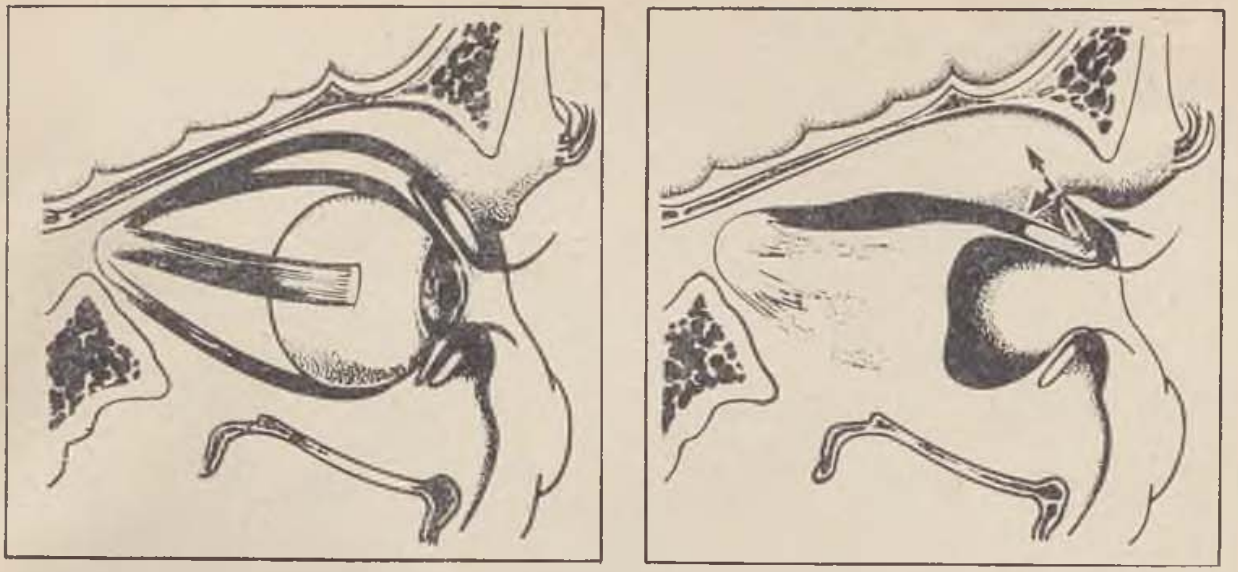


Fig. 1. Schematic section through the orbit. The position of the upper lid and its tarsal plate — Fig. 2. Change in the position of the tarsal plate of the upper lid after enucleation of the eye

OPERATION PROCEDURE

The principle of the suggested operation is the releasing of the middle third of the tendon of the upper lid levator from the tarsal plate and the stitching of this prepared muscular lobe to the periosteum of the upper edge of the orbit. The aim of the operation is the return of the tarsal plate and thus also of the upper lid to the previous position. The operation procedure is schematically illustrated in pictures 3—7.

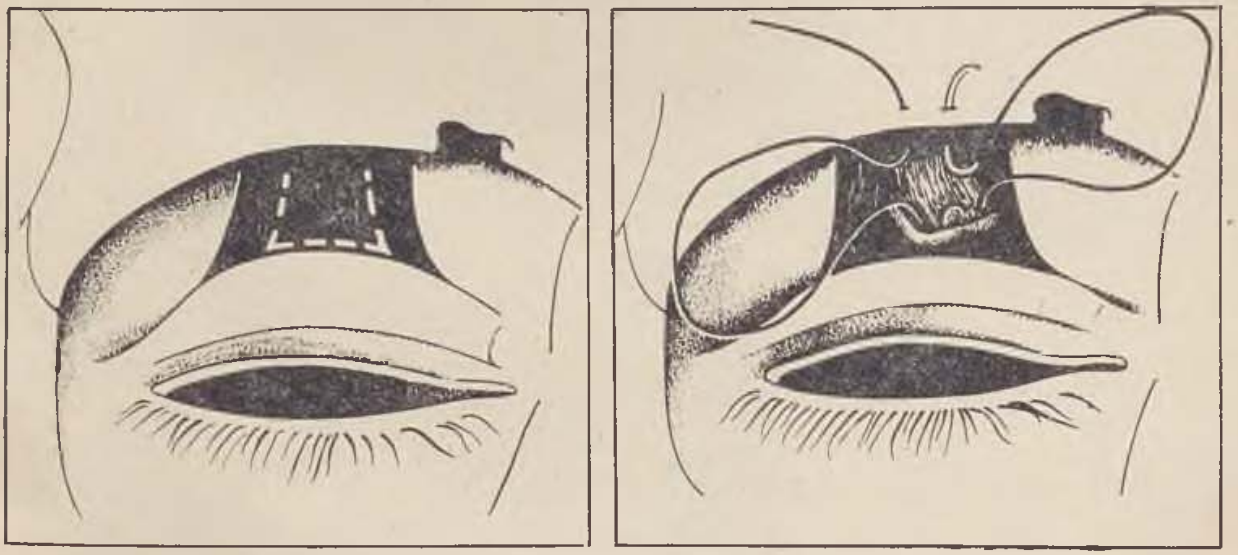
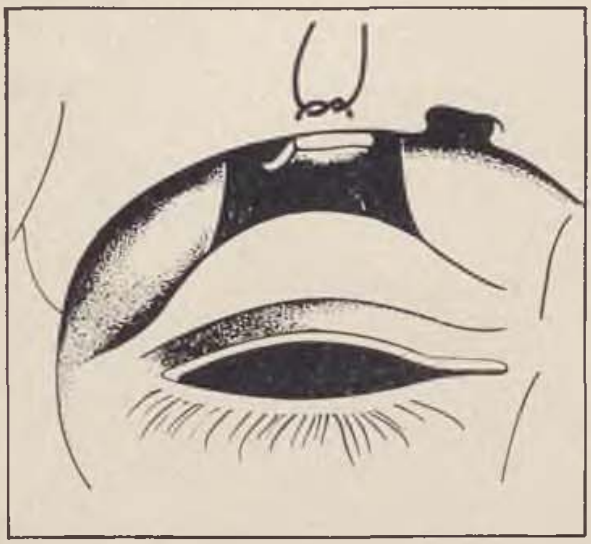


Fig. 3. Exposing the tendon of the upper lid. — Fig. 4. A stitch is put into the middle third of the tendon, this part of the muscle is clipped away from the tarsal plate and with help of lengthwise incisions a muscle lobe is created



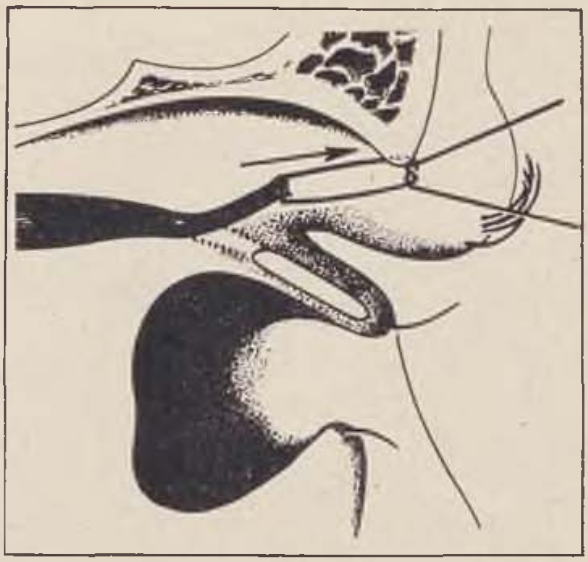


Fig. 5, 6. The muscle lobe is fixed to the periosteum of the orbital edge

Individual phases of the operation:

Rinsing of the eye socket and the desinfection of the skin of the upper lid and the surrounding area.

INFILTRATIVE ANAESTHESIA

A skin cut at a distance of 5—7 mm from the upper edge of the tarsal plate and parallel to it at the length of 15—20 mm. The exposing of the tendon of the upper lid levator to the tarsal plate by a blunt preparation and the undermining of the middle section of the upper lid up to the periosteum of the upper edge of the orbit.

Fig. 7. The result of the operation. The tarsal plate has returned to its previous position

Putting a stitch and its sewing through the middle third of the tendon of the upper lid levator, the clipping off of this section of the muscle from the edge of the tarsal plate and the lengthwise incision of the muscle at a length of about 5 mm (pictures 3 and 4). The drawing away of the upper edge of the wound to the edge of the orbit and the stitching of the middle section of the

Fig. 8. The preoperative state: deep groove of the upper lid after enucleation of left eye

upper lid levator to the periosteum of the edge of the orbit (pictures 5 and 6). A suture of the subcutis and the skin of the upper lid in two layers.

The result of the operation is illustrated in picture 7. The middle third of the tendon of the upper lid levator is fastened to the periosteum of the upper edge of the orbit, inner and outer third of the levator is fixed to the

Fig. 9. The state after plastic surgery. The upper lid has returned to its original position and the deep groove has disappeared

upper edge of the tarsal plate. The tarsal plate has returned to its original position and the deep groove of the upper lid has disappeared.

This described operation procedure has no practical contraindications.

The clipping of the middle third of the upper lid levator from the tarsal plate could lead to perforation of the conjunctiva. Preparation can be made easier by an injection of a small amount of anaesthetic under the conjunctiva, after eversion of the upper lid.

The position of the tarsal plate and thus that of the upper lid, which determines the result of the operation, is besides other things, dependent to a considerable degree upon the length of the incision, which separates the muscular lobe from the inner and outer third of the upper lid levator. Too long an incision would lessen the effect of the operation, too short an incision, on the other hand, would impair the function of the upper lid levator.

Another advantage of this suggested surgical procedure is the restriction of the pressure on the upper edge of the eye prosthesis which brought with it its undesirable displacement from its correct position.

We have been employing this method at the department of ophthalmology in Brno since 1964. Not one of our patients had any complications during or post operation, all show favourable results (pictures 8 and 9). On the technical side, the operation is intermediately exacting. This new method can be used in the fields of ophthalmology and plastic surgery.

SUMMARY

One of the unfavourable cosmetic results after enucleation of an eye is the occurrence of a deep palpebral groove of the upper lid. The author describes a new operation, which can correct this undesireable condition. The principle of this method is the releasing of the middle third of the tendon of the upper lid levator from the tarsal plate and the stitching of the thus created muscular lobe to the periosteum of the upper edge of the orbit.

RÉSUMÉ

Nos expériences avec la correction plastique de la paupière supérieure après une énucléation de l'oeil

Riebel O.

C'est la formation d'un sillon profond de la paupière supérieure qui se présente comme un des effets défavorables de l'énucléation de l'oeil. L'auteur décrit une nouvelle méthode opératoire par laquelle cet était indésiré peut être corrigé. Le principe de la méthode consiste en relaxation du tier moyen de l'insertion du releveur de la paupière supérieure du disque tarsal et suture du petit lambeau de muscle ainsi créé au périoste du bord supérieur de l'orbite.

ZUSAMMENFASSUNG

Unsere Erfahrungen mit der plastischen Korrektur des oberen Lides nach Enukleation des Auges

Riebel O.

Eine der kosmetisch ungünstigen Folgen der Enukleation des Auges ist die Entstehung einer tiefen Palpebralfurche des oberen Augenlides. Der Autor beschreibt eine neue Operationsmethode, mit der dieser ungewünschte Zustand korrigiert werden kann. Das Prinzip der Methode beruht auf der Lockerung des mittleren Drittels des Ansatzes des Oberlidhebers von der Tarsalscheibe und dem Aufnähen des auf diese Weise gebildeten Muskellpappens an das Periost der Augenhöhle.

RESUMEN

Nuestras experiencias con la corrección plástica del párpado superior después de una enuclaación del ojo

Riebel O.

Una de las consecuencias de la enucleación del ojo desfavorables desde el punto de vista cosmético es el origen de una raya palpebral profunda del párpado superior. El autor describe un método operatorio nuevo con el que se puede corregir esta condición no deseable. El principio del método es el desprendimiento del tercio medio de la inserción del levator del párpado superior desde el disco tarsal y la fijación del lóbulo muscular así formado al periostio del borde superior de la órbita.

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THE HOCKEY STICK NASAL FLAP AND ITS USE IN RECONSTRUCTION AROUND THE NOSE

NABIL I. ELSAHY

Resurfacing of the lower eyelid, the upper cheek and the nose has been effected by free skin grafts, local flaps or distant flaps. Local flaps usually provide the best cosmetic result.

The purpose of this paper is to describe an alternative local flap that proved to be useful in resurfacing these areas and provides a satisfactory cosmetic result.

DESCRIPTION OF THE FLAP AND OPERATIVE TECHNIQUE

This flap is a rotation of a hockey stick like tissue (skin and subcutaneous tissue) from the root and side of the nose to the adjacent defect in the lower eyelid, the upper part of the cheek near the nose or the nose itself. The donor area is then closed by direct approximation of tissue. The length: width ratio of the flap can be up to 4 : 1.

A) The Use of the Hockey Stick Nasal Flap for Resurfacing Skin Defect of the Lower Eyelid and for the Correction of Ectropion:

As shown in Fig. 1, the flap is elevated at the root and the side of the nose that is adjacent to the defect. The two limbs of the flap are either sutured to the edges of the defect in case of ectropion of the lower eyelid (Fig. 2), or they may be approximated and sutured together and to the edges of the defect in case of the presence of localized defect in this area (Fig. 3).

B) The Use of the Hockey Stick Nasal Flap for Resurfacing Skin Defect of the Upper Cheek Near the Nose:

The flap may be used alone if the defect is small or in combination with a nasolabial flap if the defect is large. In the latter situation, the nasolabial flap is elevated first, the amount of tissue needed for complete coverage of the

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defect is then estimated and designed as a hockey stick nasal flap (Fig. 4 and 5). The nasal flap is sutured to the rotated nasolabial flap and to the edges of the defect. The donor area is then closed by direct approximation of tissue.

C) The Use of the Hockey Stick Nasal Flap for Resurfacing Skin Defect of the Nasal Tip:

As shown in Fig. 1, the flap is elevated at the root and the side of the nose end of the oblique limb of the flap, an incision is made connecting the hockey

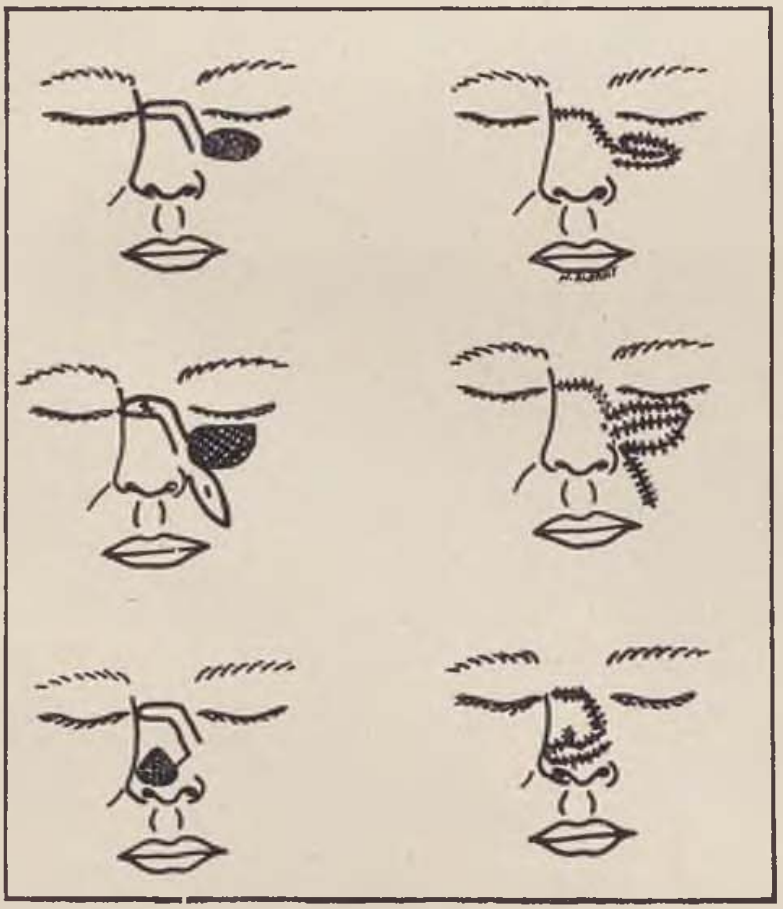

Fig. 1: Operative technique. Above: Localized defect of the lower eyelid and its closure with the hockey stick nasal flap. — Middle: Defect of the lower eyelid and upper cheek and its closure with the hockey stick nasal flap in addition to a nasolabial flap. — Below: Defect of the nose and its closure with the hockey stick nasal flap

stick nasal flap with the defect at the nasal tip. Undermining of the edges will transfer the incision into a defect in which the oblique limb of the hockey stick flap will lie. In addition, it will create a dorsal nasal flap. It the upper part of the nasal tip defect is triangular in shape, it can be closed by direct approximation of the lower ends of the dorsal flap in order to decrease the size of the defect. The hockey stick nasal flap is then rotated, with the oblique limb fitting

Fig. 2: a): Patient with ectropion of the lower eyelid resulted from excision of a lesion by another surgeon. Incision along the scar created an obvious defect. The design of the hockey stick flap is marked. — b): The flap sutured in place. — c): Immediate postoperative result. The ectropion has been corrected

into the oblique incision while the transverse limb covers the defect in the nasal tip (Fig. 6).

The dog-ear frequently encountered with rotation flaps is found to be minimal. However, minor secondary revisions may be required.

Fig. 3: a): Patient with multicentric basal cell carcinoma of the lower eyelid and upper cheek. — b): Postoperative result. The small dog-ear will be revised

DISCUSSION

The flap described proved to be of particular value in resurfacing skin defects after excision of skin tumors, especially basal cell carcinomas. It is also useful in case of traumatic loss of skin in the areas described and in cases of ectropion of the lower eyelid especially if it is more severe toward the inner canthus.

Fig. 4: a): Patient with multicentric basal cell carcinoma of the lower eyelid and cheek. — b): Excision of the lesion and raising a nasolabial flap. — c): Rotation of the nasolabial flap and design of the hockey stick nasal flap

The flap has the following advantages:

1 — It can be used easily in one stage.

2 — It utilizes the local tissue that provides the best color, texture and contour.

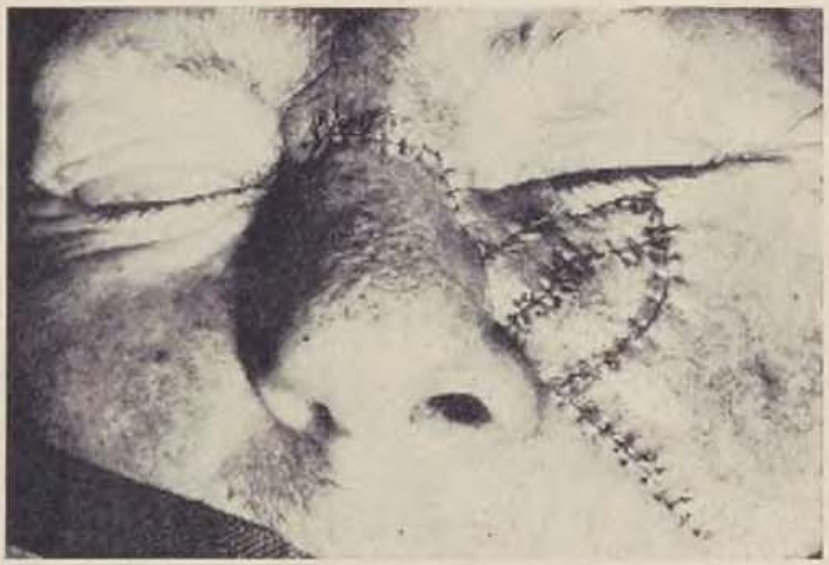

Fig. 4: d): The two flaps sutured together. e): The end result

3 — It can be used to resurface different locations (the lower eyelid, upper cheek and the nose).

4 — It may be used alone or in combiation with other local flaps, mainly the nasolabial flap.

5 — The resulting transverse scar at the root of the nose and the oblique scar at the side of the nose have their long axises parallel with the wrinkles line. This results in a minimally visible scar.

6 — No distortion of the nasal tip was detected upon closure of the donor area, and no loss of any part of the flap was subsequently observed when the maximum length:

width ratio of the flap was 4 : 1 (initially the ratio 5 : 1 was used but this resulted in minor necrosis of the tip of the flap as shown in Fig. 2 which subsequently healed with no complications).

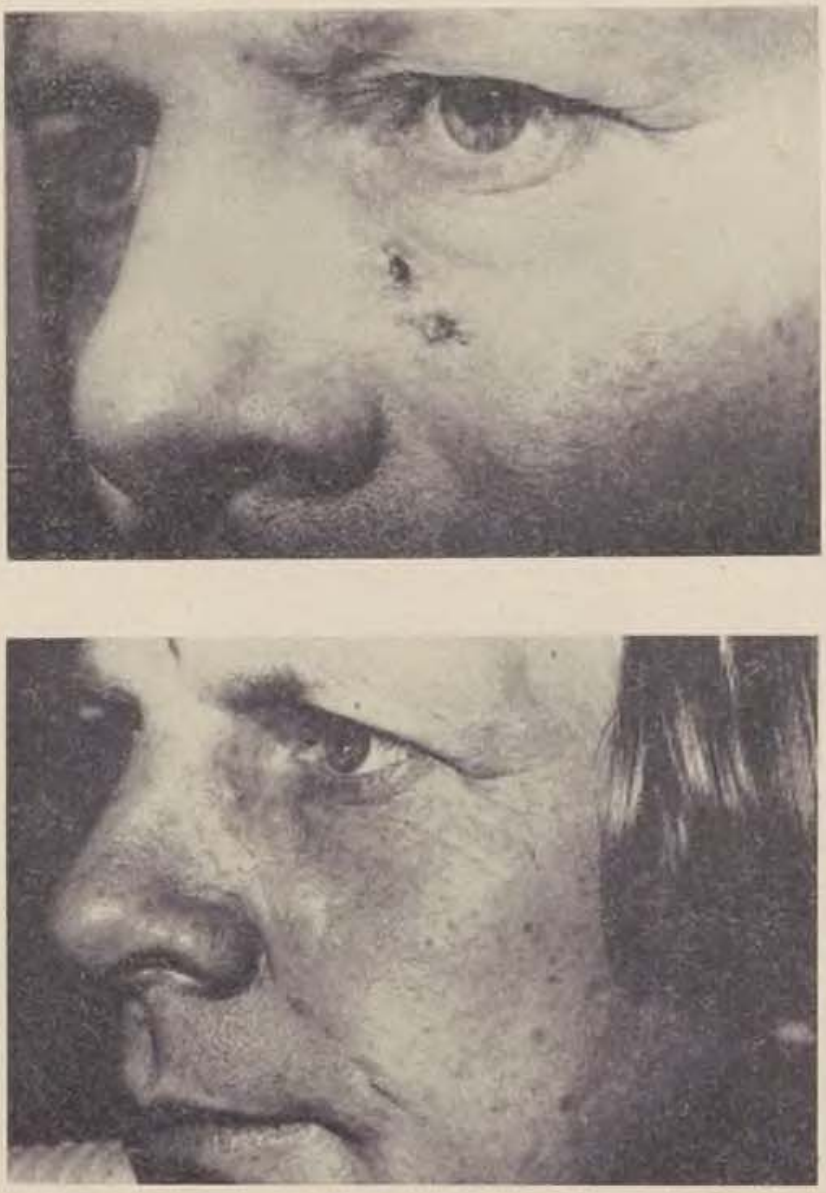

Fig. 5: a): Basal cell carcinoma of the upper cheek (multicentric). — b): The end result

The use of the triangular end of the hockey stick flap (the tail of the flap) has proved to be of additional help in resurfacing the defects, the same as in any other local flap (1).

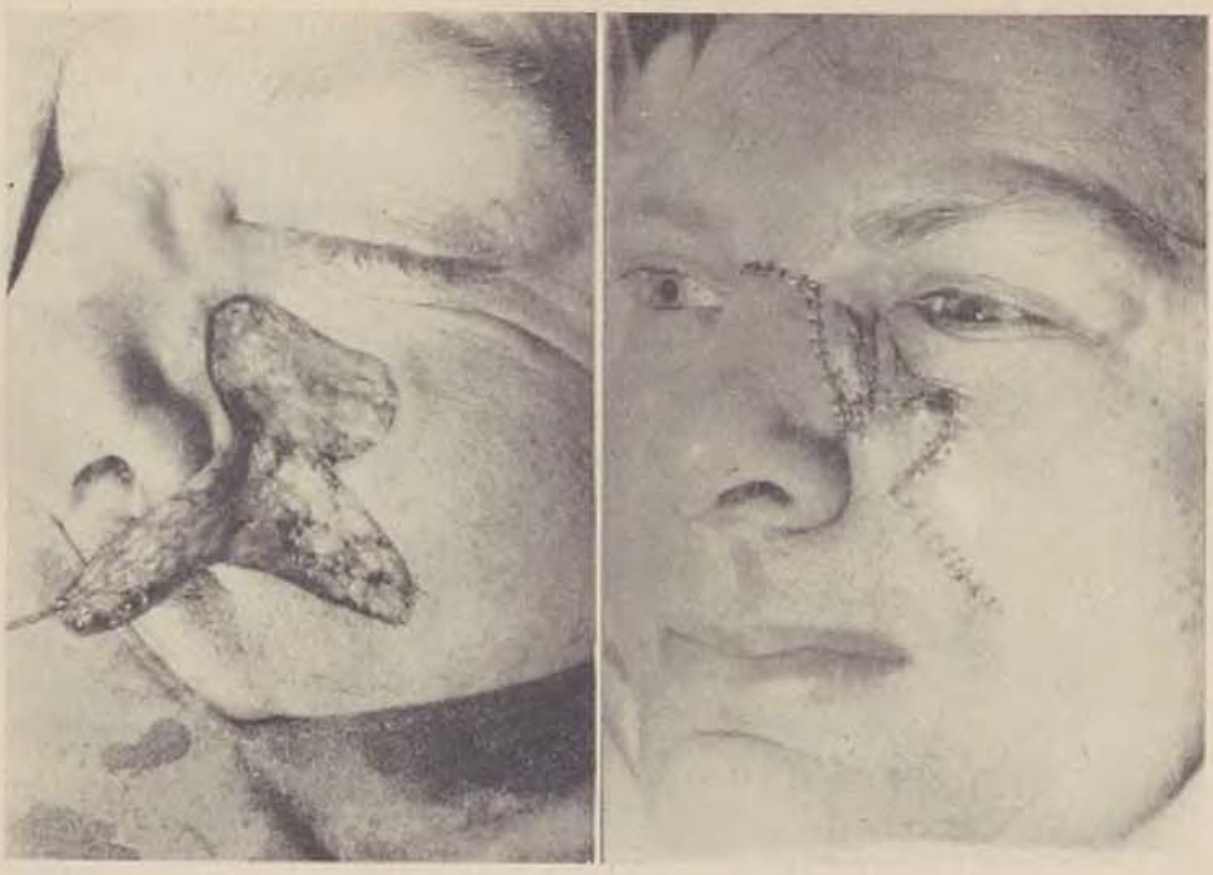

Fig. 5: c): Excision of the lesion and raising a nasolabial flap. — d): The nasolabial and the hockey stick nasal flaps sutured together

SUMMARY

Resurfacing of the lower eyelid and/or the upper part of the cheek near the nose or the nose itself has been satisfactorily achieved by the use of a hockey stick shaped nasal flap. For simplicity of transfer, versatility, and skin quality, I have found that this flap is a useful alternative in resurfacing the above mentioned areas in addition to its use in the correction of ectropion.

RÉSUMÉ

Lambeau nasal en façon de crosse et son applications dans la reconstruction des parties voisines du nez

Elsahy, Nabil I.

C'étaient la reconstruction de la paupière inférieure ou la couverture du défaut situé dans la partie supérieure de la face à proximité du nez, ou bien directement la reconstruction des défauts du nez qui étaient faites à l'aide du lambeau nasal en façon de crosse. Vu la simplicité de la transplantation et la réversibilité facile du lambeau et même la qualité de la peau, je me suis assuré que cette transplantation-ci servirait d'une méthode alternative très utile dans l'adaptation de toutes les régions ci-dessus mentionnées, comme dans la correction de l'ectropie de la paupière elle aussi.

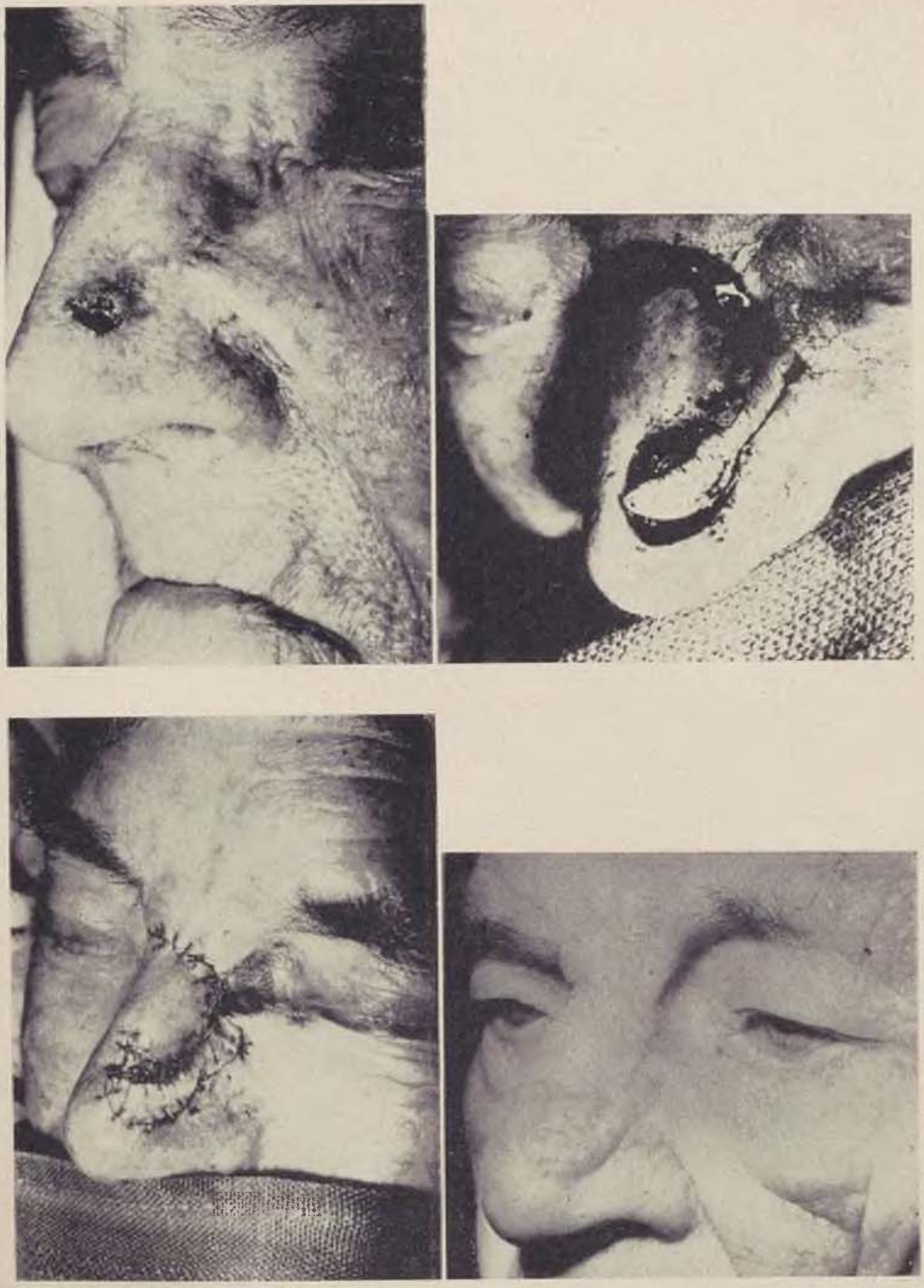

Fig. 6: a): Basal cell carcinoma of the nose. — b): The hockey stick nasal flap rotated c): The flaps sutured in place. — d): Three weeks post-operative

ZUSAMMENFASSUNG

Nasaler Lappen in Form eines Eishockeyschlägers und seine Anwendung bei der Wiederherstellung der Nasenumgebung

Elsahy, Nabil I.

Befriedigende Wiederherstellung des unteren Augenlides und/oder Deckung eines Defektes in der oberen Partie des Gesichtes in der Nähe der Nase ja sogar Deckung der Nasendefekte wurde mit Hilfe eines Nasallappens in Form eines Eishockeyschlägers durchgeführt. Ich überzeugte mich angesichts der Einfachheit der Transplantation, der leichten Drehbarkeit des Lappens und der Qualität der Haut, dass diese Transplantation bei der Korrektur aller oben angeführten Gegenden sowie bei der Korrektur der Augenlidektropie als sehr nützliche alternative Methode Anwendung finden wird.

RESUMEN

Lóbulo nasal en la forma de un palo de hockey y su aplicación en la reconstrucción de los alrededores de la nariz

Elsahy, Nabil I.

Una reconstrucción satisfactoria del párpado inferior y/o el encubrimiento de un defecto en la parte superior de la cara cerca de la nariz hasta de los mismos defectos de la nariz se hacían mediante un lóbulo nasal en la forma de un palo de hockey. En consideración de la simplicidad de la transplantación, de la vuelta fácil del lóbulo y de la calidad de la piel quedé convencido que esta transplantación serviría bien como un método alternativo muy útil en la corrección de las regiones antes mencionadas así mismo en la corrección de la ectropia del párpado.

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development of the hyperstomic syndrome are listed as including soft part traumata, fractures, postphlebitic syndrome, large vein insufficiency, primary and secondary lymphoedema, etc. There is detailed description of the clinical manifestations of the clinical manifestations of the syndrome, clinical and laboratory investigations, conservative and surgical therapy. The part on differential diagnosis includes demonstrations of typical cases which may in certain respects simulate the hyperstomic syndrome. Although the book is not printed on glossy paper, the angiograms are well readable and convincing. Some of the pictures of outer skin changes on the affected extremities and extremities prior to and after operation are in colour. The bibliographical part contains 67 quotations from world literature. The monograph will be of interest particularly to surgeons and roentgenologists, but also to all physicians who are in one way or another concerned with the diagnosis and treatment of peripheral circulatory disorders. The book is written in Portuguese.

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THE USE OF BIPEDICLE FLAP FOR THE REPAIR OF ULCERS IN THE NON-WEIGHT-BEARING AREAS OF THE HEEL

NABIL I. ELSAHY

In treating heel ulcers, the plastic surgeon is faced with problem of trying to achieve soft tissue coverage and to provide sensation to the area in order to prevent recurrence of the ulcer. The most satisfactory method of treatment is by means of a local flap (1). The purpose of this paper is to describe an alternative method of local flap that proved to be successful in providing satisfactory and substantial soft tissue coverage in addition to the required sensation. This method is based on the use of bipedicle local flap(s) from the medial and/or the lateral side of the ulcer for closure.

OPERATIVE TECHNIQUE

A bipedicle flap is designed on the lateral or the medial aspect of the foot, depending on the location of the defect. The lenght of the flap is double that of the ulcer, and the length: width ratio is about 2 : 1. The width of the flap should be uniform throughout and the lateral incision should be curved and parallel to the vertical long axis of the ulcer (Fig. 1). The flap is undermined, advanced and sutured in place. The donor area is then covered with a split thickness skin graft. The patient is instructed to avoid lying on the side of the flap or on his back. Hospital stay varies from two to three weeks. Healing usually occurs with no complications. In large ulcers, two bipedicle flaps are designed — one on each side of the defect. The two flaps are advanced and sutured together to cover the defect (Fig. 2).

CASE REPORTS

Case 1:

A 51 year old female patient was admitted to the Grace General Hospital due to an ulcer in her right heel. The patient was a drug addict and the ulcer resulted from long immobilization in bed. Although the ulcer was of moderate

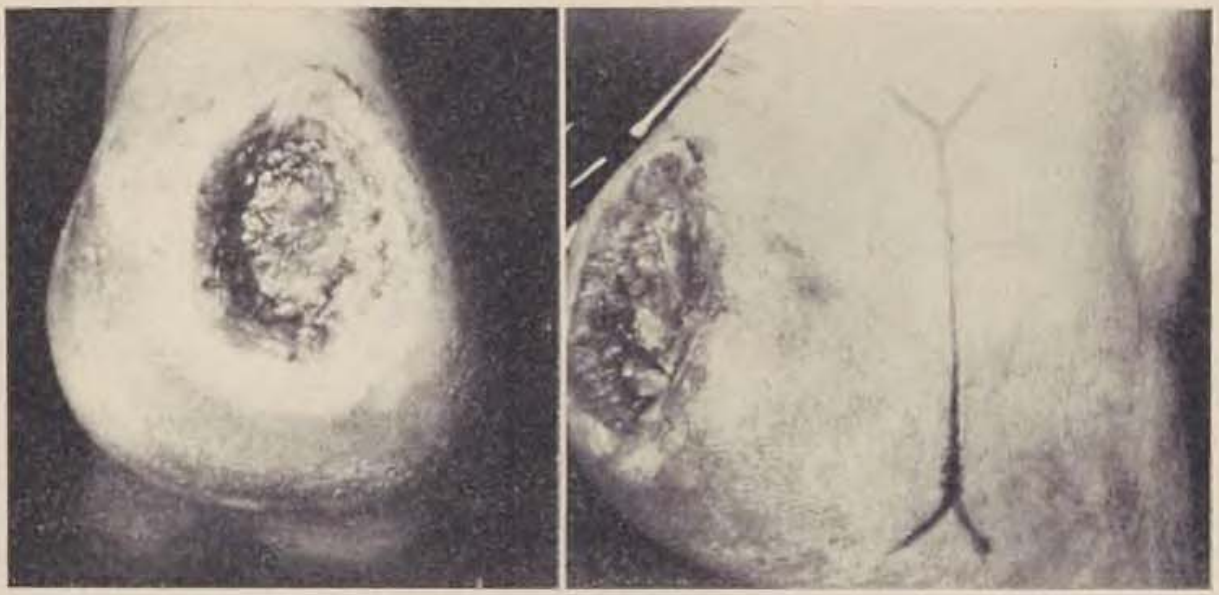

Fig. 1. a) The ulcer. — b) The design a single bipedicle flap

size, it was deep to the bone with destruction of the overlying periosteum (Fig. 1). A bipedicle flap was designed on the lateral aspect of the ulcer, and was advanced to cover the defect. Hospital stay was two weeks and healing occurred with no complications.

Case 2:

A 20 year old female patient was admitted to the Grace General Hospital due to an ulcer in her right heel following a motorcycle accident. The ulcer was large and included almost all of the non-weight-bearing area of the heel. The tendocalcaneus was exposed (Fig. 2). Two bipedicle flaps were designed, one on each side of the defect. The two flaps were advanced and sutured

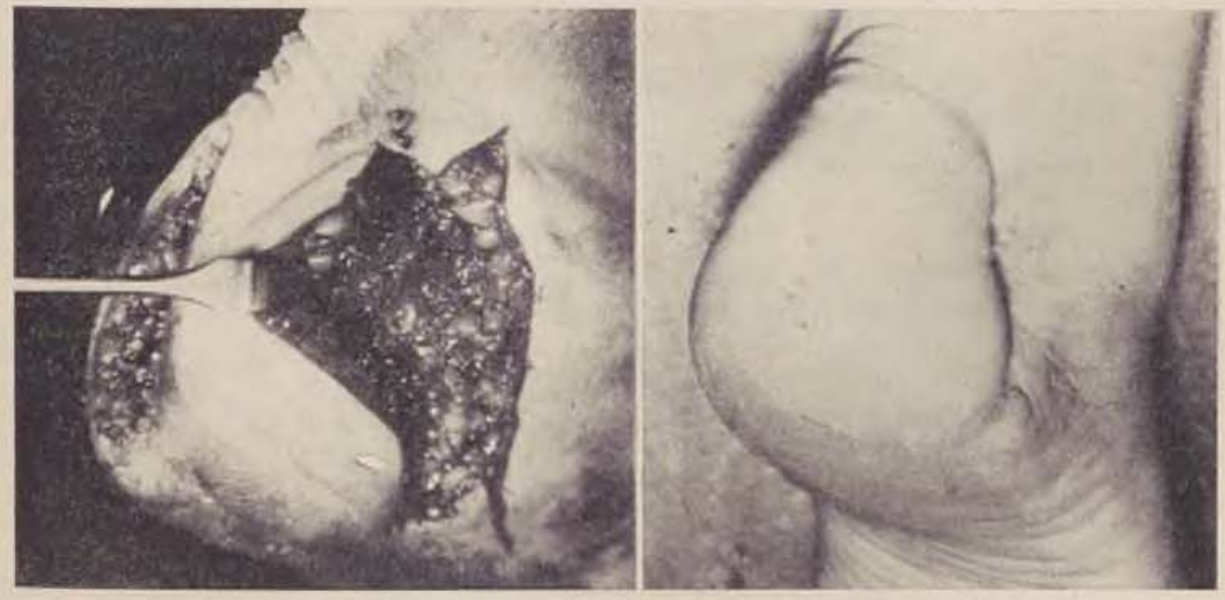

Fig. 1. c) The advancement of the flap. — d) Six months after the repair

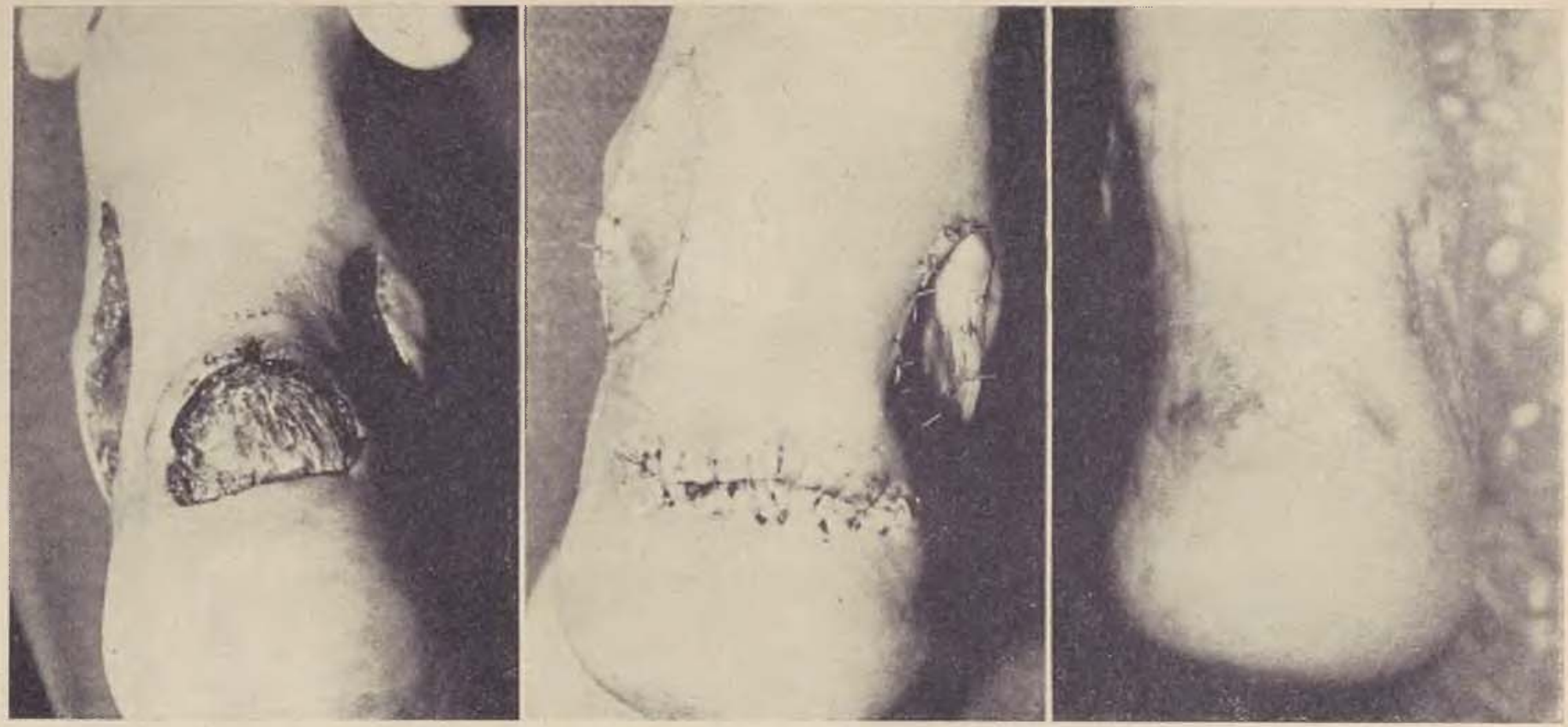

Fig. 2. a) The large ulcer and the two bipedicle flaps resigned.— b) The two flaps sutured together. — c) The end result one year after the repair

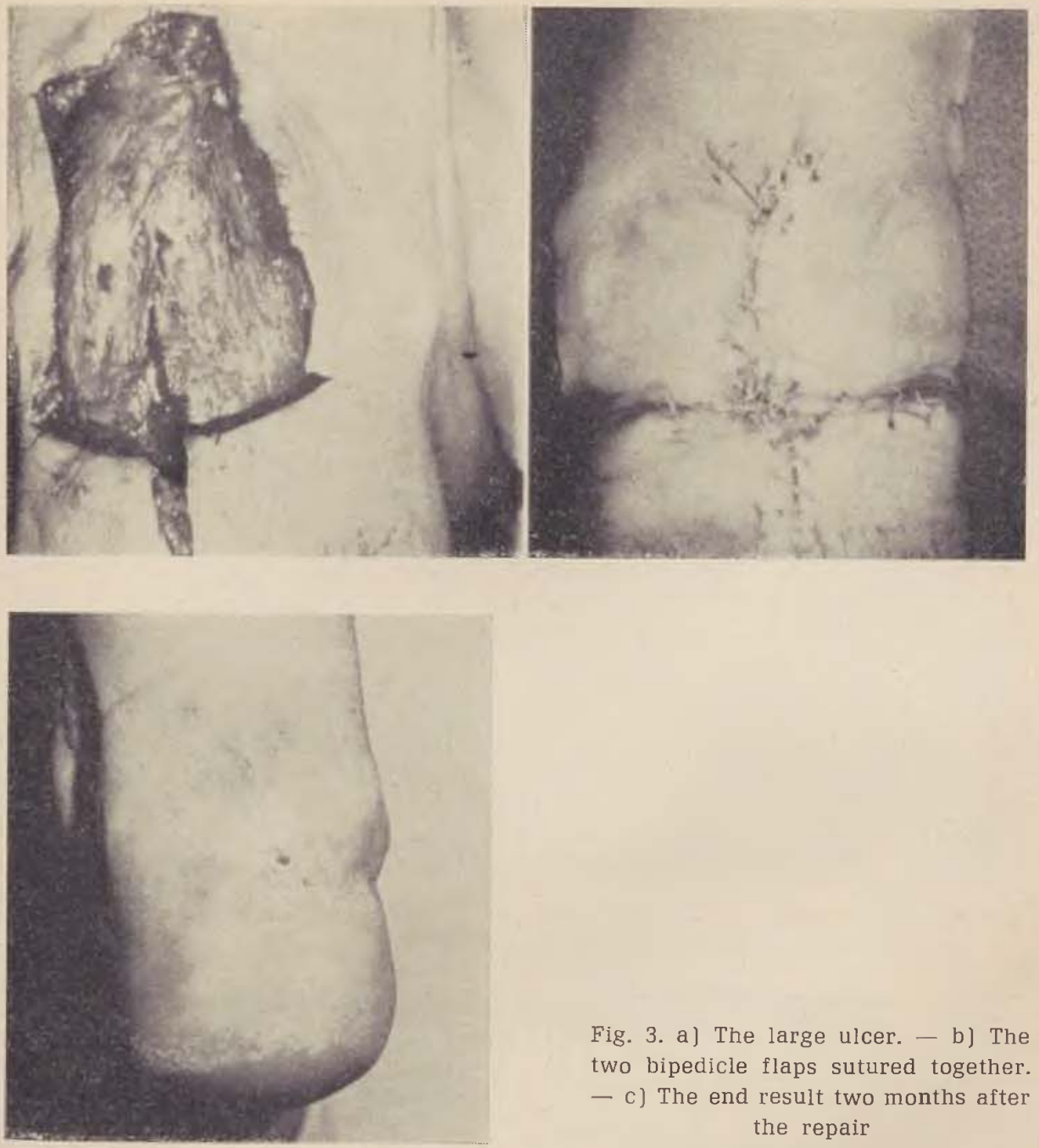

Fig. 3. a) The large ulcer. — b) The two bipedicle flaps sutured together. — c) The end result two months after the repair

together to cover the defect. Plantar flexion of the foot was maintained and healing was complete except for a small area of superficial skin necrosis at the suture line. When this was debrided, it revealed a healthy base which was formed of the subcutaneous tissue of the advanced flaps. This was covered succesfully with a small piece of split thickness skin graft and healing was then uneventful (Fig. 2).

Case 3:

A 12 year old male patient had a deep ulcer on the non-weight-bearing area of the heel. This resulted from long immobilization of the leg in a plaster cast

which was applied for a fractured tibia and fibula. Two bipedicle flaps were designed (Fig. 3) and used for closure of the ulcer. Post-operative course was essentially the same as Case 2, with complete healing.

Case 4:

A 40 year old male patient had a decubitis ulcer in the non-weight-bearing area of the heel. Debridement and coverage of the ulcer was done using a bipedicle flap from the lateral aspect of the foot. Healing was uneventful.

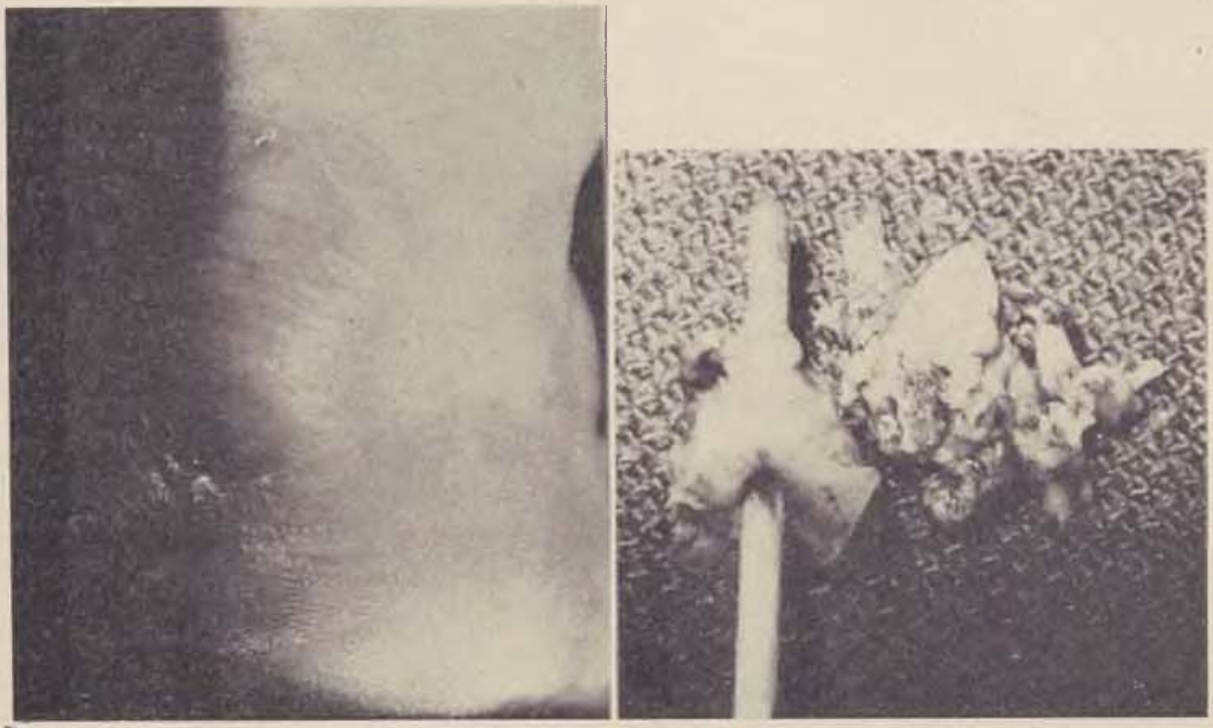

Fig. 4. a) The congenital and chronic sinus. — b) The excised sinus with a stick passing through it and chronic granulation tissue beside

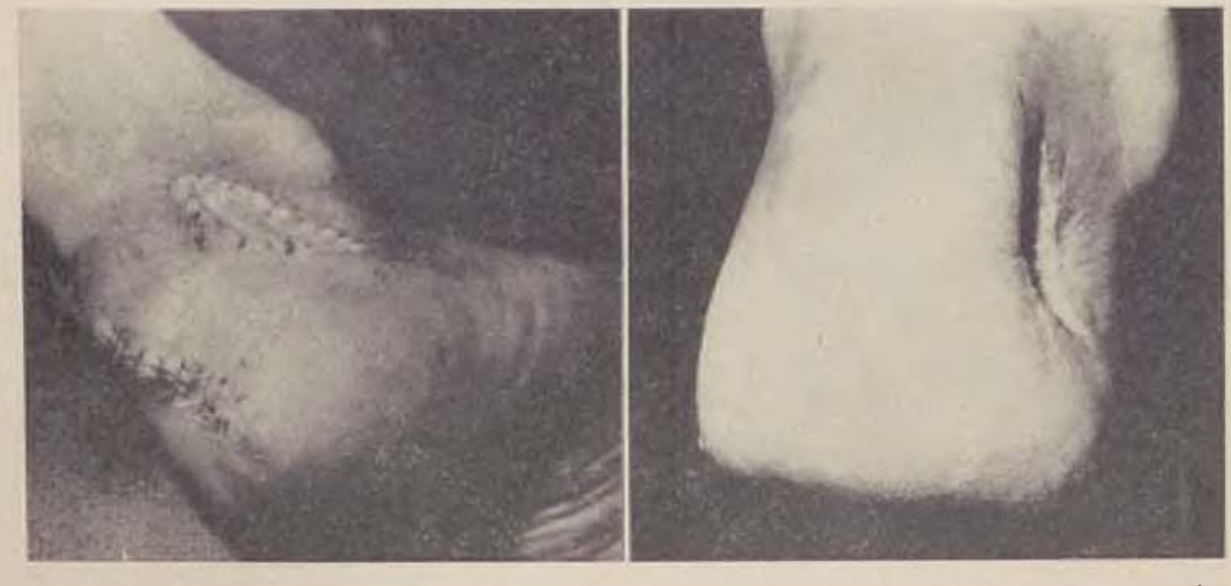

Fig. 4. c) bipedicle flap covering the sinus. — d) The end result three months after the operation

Case 5:

A 30 year old female patient had an ulcer on the non-weight-bearing area of the heel since birth (Fig. 4). It started as a small sinus, frequently breaking into a large ulcer that partially healed to reopen shortly after. Of great interest was the fact that the patient's sister had had a similar congenital sinus in a similar location in her heel. This ended up by large ulceration and infection and subsequent below knee amputation. No cause for these congenital sinuses of the heel was ever found.

The sinus was traced down to the calcaneus bone and excised with the surrounding granulation tissue (Fig. 4). The ulcer was then covered with a bipedicle flap advanced from the lateral aspect of the foot (Fig. 4). Healing was uneventful and the patient was discharged two weeks post-operatively.

Pathological examination of the excised sinus revealed fibrofatty tissue with deep cleft containing keratin and showing fibrosis. Examination of the heel six months postoperatively revealed complete healing with no sign of recurrence of the sinus; no hyperkeratosis of the skin (Fig. 4).

DISCUSSION

Traumatic ulcers on the prosterior surface of the heel can be a great problem to both the patient and the surgeon. Linear repair may cover only minimal defects. Skin graft requires at least the presence of periosteum over the os calcis, and even if this takes, it is prone to develop hyperkeratosis at the junction of the graft and the plantar skin because of the difference in thickness (3). In addition, recurrence of the ulcer frequent. Distant flaps are time consuming, inconvenient, and do not bring sensation to the area. Local flaps contain tissues that match the tissues at the recipient site in texture and thickness. It may take one of the following forms:

1 — Transposed flap based on the lateral aspect of the ankle with the base upward (2).

2 — Two vertically opposed transposition flaps (2).

3 — Bipedicle bucket handle flaps from the skin over the back and lower Achilles tendon area to cover ulcers on the sole of the heel (2).

4 — Rotation flap based on the medial calcaneal vessels to cover ulcers of the sole or back of the heel (2).

5 — Sliding transposition flaps (4).

The vertical, bipedicle flap presented has the following advantages:

1 — Simple, comfortable, and it is a one stage operation.

2 — Like other local flaps, it results in good sensation which helps to prevent recurrence of the ulcer, and it eliminates the complications of using skin graft such as hyperkeratosis, unstable graft and painful scar.

3 — The donor area is placed well on the side of the foot, where a skin graft will take easily and remain stable.

The disadvantage of the method is the possibility of superficial skin necrosis at the suture line if the defect is very large. Accordingly, this operation is most suitable for small and moderate sized ulcers that are deep to the bone. As with all other methods of local flaps, caution must be exercised if the ulcer to be dealt with is in patients with diabetes or vascular disease.

SUMMARY

Bipedicle flaps have been used to repair ulcers of the non-weight-bearing areas of the heel. I have been pleased with the results, particularly in ulcers of small to moderate size. The operative technique is described. It's advantages and disadvantages are discussed. An interesting patient with familial and congenital sinus of the heel in also described.

RÉSUMÉ

Lambeau à deux tiges destiné à couvir l'ulcère situé au talon dans la zone qui ne porte pas la charge

Elsahy, Nabil I.

Pour couvrir l'ulcère situé dans la zone du talon qui ne porte pas les poids du corps, on se sert d'un labeau à deux tiges. Les résultats m'ont satisfait surtout dans les cas de petits ulcères et de ceux d'une moyenne étendue. On décrit la technique opératoire en appréciant ses avantages et déficiences. — Un cas intéressant concernant le sinus congénital de famille du talon est mis en évidence.

ZUSAMMENFASSUNG

Ein Zweistiellappen zur Deckung des Abszesses an der Ferse im Bereich, der keine Körperlast trägt

Elsahy, Nabil I.

Zur Deckung eines Abszesses in Bereich der Ferse, der keine Körperlast trägt, wurde ein Lappen mit zwei Stielen benutzt. Die Ergebnisse waren befriedigend, besonders in Fällen kleiner und mittlerer Abszesse. Die Operationstechnik wurden beschrieben und ihre Vorteile und Mängel ausgewertet. Es wird ein interessanter Fall eines angeborenen familiären Fersensinus beschrieben.

RESUMEN

Lóbulo de dos pecíolos para cubrir una úlcera en el talón en la zona que no soporta carga

Elsahy, Nabil I.

Para cubrir una úlcera en la zona del talón que no soporta el peso del cuerpo se usa un lóbulo de dos pecíolos. Estuve satisfecho por los resultados sobre todo en los

casos de úlceras pequeñas y de las tamaño medio. Está descrita la técnica operatoria y evaluadas sus ventajas y deficiencias. Está mencionado un caso intresante del sino congénito familar del talón.

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As. Prof. J. B r u n a, M.D., CSc: **Clinical Lymphography.** Published by Avicenum, Prague 1977, 256 pp., 114 figures, price 33 Kčs. Summaries in Russian and English.

The monograph was preceded by more than 500 lymphograms and at least 16 partial communications. The work was based on practice, turned to practice, and was designed to make easier the initial steps of all those who wish to study lymphography.

Following brief references to anatomy and physiology, the author describes the technique of direct lymphography as well as an original method of suprailiac devoted to pharmacolymphography, i.e. lymphography. Particular attention is influencing the lymphatic system with lymphoactive substances. Contrast application time can thus be reduced to one half, providing a more distinct picture of collateral circulation. Lymphography is indicated in tumours of the lymphatic system, in oedemas of obscure aetiology, internal lymph vessel fistulas, in the lymph node syndrome, and in diseases with lymph node involvement. Lymphographic examination is contraindicated in serious lung and heart diseases, in generally grave conditions, in severe thrombophlebitis and in hypersentitivity to radiopaque substances or to anaesthetics.

The part on inflammatory, degenerative and postirradiation node changes is followed by a section on primary tumours. Lymphography proves its worth, among other things, by facilitating target-oriented biopsy, though it is no substitute for microscopic investigation. Lymphographic studies of metastatic processes are most commonly indicated in cancers of the urogenital system, the skin, in melanoblastomas, in breast tumours, in cancers of the rectum, sigmoid, kidney, and in some of the sarcomas. Metastases show up as sharply defined defects in the node capable of causing obstruction to the lymph flow through the node, or collateral circulation or lymphatic fistula development. Other indications include differential diagnosis of the lymph node syndrome, i.e. diagnosis of enlarged nodes of unclear aetiology.

Lymphography is not infallible. Node defects are usually regarded as metastases provided they show the typical features and provided the patient has a history of previous surgery for malignant tumour. The author includes two observations to show how a lymphographic picture highly suggestive of a metastatic process was conditioned by fibrolipomatosis. In patients with lymphoedema, lymphographic exam-

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Head As. Prof. R. Kluzák, M.D., CSc

OUR EXPERIENCE WITH PVP IODIDE-BETADIN IN PLASTIC SURGERY

P. ČESANÝ

There is a growing tendency to looking for effective antiseptics in practically all branches of medicine. The trend has been particularly significant in surgical specializations. In plastic surgery, especially in the treatment of burns, the employment of suitable, effective antiseptic drugs is the mainstay of any therapy since once the burn shock has been dealt with, which poses no longer any problem, the severely burned may die of toxaemia from the infected area. In such cases, the choice of any effective substance tends to be complicated by the requirement that the substance should not irritate the tissue deprived of its cover, and that it should neither get absorbed not affect the internal environment. In looking for a suitable substance we came across Polyvinylpyrrolidon iodine which appeared the meet a considerable part of the requirements.

In terms of its antiseptic effects, the substance is essentially on a par with iodine tincture in that it acts on both gram-negative and gram-positive bacteria, including Staphylococcus aureus, Pseudomonas, E. coli. At the same time, it is practically the only means effective against Candida albicans, in addition to pronounced antimycotic effects.

PVP iodine is produced under the names of Betadin or Betaisodona in the forms of either 10 % aqueous solution or ointment. PVP iodine contact with the skin, mucosa or granulation tissue and burned area is marked by a slow release of iodine with bactericidal effect. Moreover, there is no absorption with the risk of allergy to iodine being negligible (1 : 500).

It was with these properties of Betadin (B. in further text) in mind that we decided to test its practical effects in plastic surgery. We followed up the effects in a total of 300 patients divided into the following groups:

1) burns
2) trophic ulcerations and decubiti
3) trauma of different aetiology
4) postoperative development following plastic surgery
5) purulent diseases
6) follow-up for intolerance and side effects

B. was applied in all the cases involved in two forms — ointment and solution. The criteria for application were routine ones as normally used in surgery:

Eschar or necrotic tissue on the surface was covered with ointment applied immediately on the wound with protective gauze dressing placed on the ointment.

Liquid B. was applied particularly where there was considerable secretion and where we wanted the area to be dried out. In half the cases concerned the burn wounds were treated with liquid B. which was then allowed to dry and the area left free from any other dressing; for liquid B., once it has dried out, develops a fine porous film. In the other half of the cases fatty tulle gras soaked in liquid B. was employed. In the open technique, the coating was repeated as needed several times a day.

1) Burns:

The follow-up was done in two stages: in the initial period, B. was only used in minor burns. This was prompted primarily by the need to test the effectiveness of the preparation and to watch out for any undesirable effects. 150 patients, i.e. hospitalized and outpatients, were followed up in this way. It was only after the good properties of B. had been checked that we began to use it in major burns, in a total of 20 cases, in order to find out about both its bacteriological effects and the side effects (acidosis, kidney function, etc.).

There were no changes due to B. to have affected the patients' general condition.

B. ointment was also applied in 3rd-degree burns in cases which had ruled out the possibility of primary excision. In all those cases, necroses were preserved until the time of necrectomy without any signs of infection, obviously a corroboration of a property described in literature, namely that of B. being able to penetrate through the necrosis into the underlying tissue. In all those patients, contamination was checked up on prior to, during and after the application of B. with a sharp drop in the bacterial finding in all of them.

To give a typical example, let us refer to the case report on patient Z. H., 35 years, who suffered 2nd to 3rd-degree burns over a body area of 62 % (about half of it 2nd degree, the other half third-degree burns). The accident occurred on June 21, 1976. After dealing with a severe shock, the patient received the usual therapeutical means, Sulfamylon, antibiotics etc. After three weeks of hospitalization and temporary improvement of the patient's state, i.e. after repeated necrectomy and transplantation prepared the ground for healing, a severe septic condition developed diagnosed as a severe case of Pseudomonadic sepsis. The condition was accompanied by bacteriological findings from the burned areas:

28/7/76
massive Pseudomonas aerug.
Staphyloc. aureus
E. coli
Streptococ. liquefaciens

4/8/76
mas. Pseudomonas
numerous coli
scanty Proteus

12/8/76
numerous Pseudo-
monas

On August 20, 1976 Pseudomonas merely after multiplication, and on Sept. 7, 1976 no bacteriological finding.

B. ointment was started on July 28, 1976 in combination with high doses of antibiotics (Gentamycin, Pyopen).

Following the initial unusually ominous development, the healing process in the patient was quite clearly the result of the combination of high doses of antibiotics and B. Biochemical function check-ups were carried out throughout with no deviations detected such as might suggest any undesirable effect of B.

The conclusion to be drawn from the follow up of B. application in severe burns is unambiguous on the whole — a very good effect on fighting bacterial flora without any side reactions. In spite of that, there should be regular check-ups on the acid-base balance which, however, are at any rate necessary in any major burn.

2) Trophic ulcerations, crural ulcers, and decubiti

Trophic ulcerations and typical crural ulcers of the lower extremities are always pools of infection. To make for effective therapy, the infection must be eliminated in the first place; secondly it is necessary to adjust the granulation area pH, whose value is usually high in such cases, back to the normal value of about 7.0. The antiseptic properties of B. together with its low pH prove to be able to overcome both serious obstacles standing in the way of healing such ulcerations. The method was used in a total of 33 patients with very good results. In 12 of them a detailed follow-up of the healing process was effected using bacteriological swabs. The defect cleaned very rapidly and there was either spontaneous healing or else the transplants took where it proved impossible to do a radical excision of the defect. In most cases liquid B. was used in an open method, while B. ointment proved its worth in typical crural ulcers.

Our department is also concerned with the treatment of decubiti in paraplegics, i.e. in patients with impaired tissue trophicity and with substantially impaired healing capacity. Liquid B. is used with some very good results in the preoperative preparation consisting mainly in as much disinfection as possible, usually in severely infected defects. In the postoperative period, often marked by the risk of the operation wound becoming infected, a natural feature in operation in such an environment, B. was also applied to treat the patients, this time in the form of ointment. There was very satisfactory healing even in such cases.

3) Trauma of different aetiology

B. was also used for the treatment of different types of trauma which belong in the sphere of plastic surgery, such as in traumatic losses in the face, scalpation, traumatic losses of fingers and hands, etc. These are often injuries with considerable contamination involved. Such cases were observed for signs of inflammatory complications following primary emergency treatment, and for that reason given B. In all cases of injury treated in this way infection disappeared within 3 to 4 days. In cases of deprivation hand injury where the urgence diferée method was used, fatty tulle gras soaked in B. solution was applied to provide cover after the wound was cleaned. After about 3 to 4 days, before a definitive treatment and dressing was resorted to, the injured areas were quite clean and free from signs of infection. Following transplant operations in scalpation the transplants were coated with liquid B., thus ensuring uncomplicated healing.

4) Postoperative development

Signs of inflammation in the wound may crop up from time to time, even given perfectly sterile conditions and well performed surgery. Our list includes 15 patients affected in this way, 11 of them after excision and transplantation of exulcerated tumours; in other words, involving a severely infected area. B. ointment was applied on the first slightest signs of inflammation. Other such cases involved two patients after delay flap in preparation for cross leg flap. Signs of infection also disappeared after B. Two other patients had pharyngeal fistulae flap cover performed following laryngectomy, again involving an area already infected. Here, too, uncomplicated healing was ensured as a result of using B.

The above results made us use B. also as a preventive measure in some surgical operations particularly liable to infection such as after surgery for cleft palate where even relatively minor infection can interfere with oral mucosa suture thus ruining the results of what is an extremely demanding surgical operation. In the last 24 cases of palatal operation the suture sites were rubbed with liquid B., giving very good results, preventing any perforation, and making even children tolerate B. applied to oral mucosa extremely well. Similar results were recorded following surgery for harelip, reconstruction operations and some cosmetic operations.

5) Purulent diseases

In our routine plastic surgery practice we also occasionally came across purulent diseases of different aetiology and treated them with B. These were 5 cases of pararitium following incision, a condition which invariably healed within a few days following the application of B, 4 cases of paronychia treated with B. ointment and healed within 3 to 4 days. Favourable effects were also observed in treating herpes with B.

The effects of B. was also tested in cases of mycosis, specifically in 6 patients with interdigital mycosis and 2 patients with mycosis in the scrotal

region. In all those cases healing occurred within 1 to 2 weeks, though, to be on the safe side, application of B. was continued for another two weeks; there were no relapses. B. was also used to treat several cases of facial acne, again with good results.

6) Side effects

Out of the 300 patients followed up there was not a single case of intolerance or allergization. Similarly, as already mentioned, in burns there was no adverse effect on the patients' general condition either. No signs of iodine overdosage were observed even in cases involving B. application in the oral cavity or on major wound areas. J. H.

CONCLUSION

Experience with 300 patients treated with different forms of Betadin showed that this was an unusually effective antiseptic means for the treatment of burns, purulent diseases, trophic ulcerations, postoperative complications, decubiti. In addition to the usual range of plastic surgery indications B. also comes in useful in cases involving general surgery, dermatology, gynaecology etc., i.e. where maximum disinfection is called for using a means which causes no irritation or allergy and no changes in the internal environment.

RÉSUMÉ

Après les expériences obtenues chez 300 malades traités par diverses formes de Betadin nous avons constaté qu'il s'agissait d'un remède antiséptique extraordinairement éfficace destiné à guérir les brûlures, maladies purulantes, ulcérations trophiques, complications postopératoires, décubitus. Sauf les formes courantes des indications de la chirurgie plastique Betadin affirme sa réputation même dans les cas de la chirurgie générale, dermatologie, gynécologie, etc., alors dans tous les cas où il est nécessaire d'obtenir une désinfection maximum par un remède qui n'irrite pas, ne provoque aucune alergie et n'influence pas le milieu interne.

SCHLUSSFOLGERUNG

Nach Erfahrungen, die wie bei 300 mit verschiedenen Formen von Betadin behandelten Kranken gewonnen haben, haben wir gefunden, dass es sich um ein ausserordentlich wirksames antiseptisches Mittel zur Behandlung von Verbrennungen, eitrigen Erkrankungen, trophischen Ulzerationen, postoperativen Komplikationen und Dekubiten handelt. Ausser der geläufigen Palette von Indikationen der plastischen Chirurgie bewährt sich Betadin auch in Fällen der Allgemeinchirurgie, Dermatologie, Gynäkologie, u. ä., also überall, wo es notwendig ist, ein Höchstmass an Desinfektion mit einem Mittel zu erreichen, das nicht reizt, keine Allergie hervorruft und das innere Milieu nicht beeinflusst.

CONCLUSION

Las experiencias que habíamos adquirido en 300 pacientes tratados de varias formas de Betadin nos han llevado a deducir que se trata de un medio antiséptico muy eficaz para tratar las quemaduras, enfermedades purulentas, ulceraciones tróficas,

complicaciones postoperativas, decúbitos. Al lado de la extensión corriente de indicaciones en la cirujía plástica Betadion se prueba bueno también en casos de cirujía general, de dermatología, de ginecología etc., es decir por todas las partes donde necesitamos conseguir máxima desinfección por un medio que no irrite, no excite alergia ni influya el medio interior.

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ination using an oil contrast medium may even aggravate the condition. Therefore, the point to be taken into account is whether oil lymphography could not be replaced by lymphography using a water contrast medium or radioisotopes. In abdominal lymphography the author injected, as a matter of principle, Lipiodol Ultrafluid up the level of L2 only. This minimalized the rate of local complications, while total reactions remained transient only. The monograph is in fact the first Czech language treatment ever of a new roentgenological discipline. Our physician no longer has to rely exclusively on foreign textbooks often available to selected institutes only. True, Bruna's book does not include any colour pictures of exotic diseases and also the reproductions there would sometimes deserve some kind of better, glossy paper. However, the picture documentation is rich enough including, as it does, xerolymphogram printed blue. The author's main purpose has, nevertheless, been well met. The reader is given brief and clear instruction on all the problems involved, including typical pictures in numerous roentgenograms. The picture documentation is supplemented by some of the pictures supplied from the collections of reviewers Dr. K. Benda and Dr. J. Chmel.

It is to be hoped that Bruna's work will stimulate the general medical public as it is meant not only for those interested in lymphography. It maps out new ways and means. Let me refer to merely one of them to show how much we owe our oncological patients in preoperative investigations. A preoperative lymphographic examination should be available far more often in a substantial number of our patients with carcinoma. Lymphographic findings should be made use of in planning the therapeutical procedure, and intervention in the lymph nodes affected ought to be resorted to in indicated cases before there is any dissemination, bearing in mind the old rule: Four ounces of prevention may be better than a pound of cure.

As. Prof. V. V. Vojtíšek, M.D., DrSc

NEWS

Preliminary Announcement

The second international symposium will be held in Kansas City from Wednesday, March 8 to Saturday, March 11, 1978. The guest faculty will include outstanding teachers from the United States and overseas countries. Topics of interest to pediatricians, otorhinolaryngologists and other related sub-specialties will be discussed.

Registration: Otorhinolaryngologists-$300., Pediatricians-$250., Audiologists & Paramedics-$200., Residents-$150. For further information contact: Basharat Jazbi, M. D., Professor and Chief, Section of Otorhinolaryngology, The Children's Mercy Hospital, 24th at Gillham Road, Kansas City, Missouri 64108, USA.

The First Interdepartmental Course on Cranio-Facial surgery will take place on December 12 through 15, 1977, at the Centro Especial "Ramón y Cajal", Madrid, SPAIN.

The Course is organized by the Plastic Surgery Dept. and Maxillofacial Surgery Dept. of this medical center and the main subject is "Traumatology and Congenital Malformations of the head".

Secretary: Adolfo Gómez Montoya, M.D., Departamento de Cirugía Plástica. Planta-1, Centro Especial „Ramón y Cajal", Corretera de Colmenar Km 17,8, Madrid, España.

SECTION OF PLASTIC AND RECONSTRUCTIVE SURGERY AND RECONSTRUCTIVE SURGERY OF SOCIETY OF POLISH SURGEONS

1st information

From October 22—23, 1978 the XIV Scientific Conference of Plastic and Reconstructive Surgery Section of Society of Polish Surgeons will be held in Warsaw.

Two days will be devoted to scientific sessions. Presentations will consist of panel discusion, free papers, films and scientific exhibits.

The subject of panel discussion will be — Microsurgical technic for plastic and reconstructive surgery.

Application to present free paper should be made by filling out From B (the abstract of maximum 150 words) and sending it to the Organizing Committee no later than January 31, 1978.

Contributors are requested to send a full typescript prior March 31, 1978. Oral presentation of free papers are to be kept to maximum length of 10 minutes.

The registration from (From A) should be completed in typescript and returned no later than January 31, 1978 to:

Doc dr hab Michał Krauss, President of Organizing Committee of the XIV Scientific Conference of Section of Plastic and Reconstructive Surgery, Czerniakowska 231, 00-416 Warszawa.

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