ACTA CHIRURGIAE PLASTICAE

INTERNATIONAL JOURNAL
OF PLASTIC SURGERY

22 · 2

1980

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, Lidových milicí 63, Czechoslovakia. — Press: Středočeské tiskárny, n. p., provoz 01, Hálkova 2, Praha 2

Subscription rate: sFr 105.— plus postage. Exclusive discributors for all countries with the exception of Albania, Bulgaria, China, Cuba, Czechoslovakia, German Democratic Republic, Hungary, North Korea, Vietnam, Mongolia, Poland, Rumania, Union of Soviet Socialist Republics and Yougoslavia:

KARGER LIBRI AG, Petersgraben 31, CH-4000 BASEL 11 (Switzerland)

Scientific Institute of Medical Radiology, Obninsk (USSR)
Director A. F. Tsyb, Doctor of medical sciences
Department of Treatment of the Radiation Injuries
Director M. S. Bardytchev, Doctor of medical sciences

THE USE OF AN AUTOLOGOUS SPLIT SKIN FLAP IN TREATMENT OF DELAYED RADIATION INJURIES OF THE SKIN

M. S. BARDYTCHEV, YU. A. KIM, V. D. PETRIK

A radiation therapy of malignant tumours and of some other diseases can be complicated by a local damage of skin and deeper soft tissues due to irradiation. Such alterations may develop during the procedure or closely following it (early radiation injuries), or long time after finishing the radiation treatment (delayed radiation injuries). In the irradiated zone, the regenerative processes are markedly repressed as a consequence of the direct damage of the cells by the ionizing radiation (Kuzin 1973, Kozlova 1977, Strelin 1978, Wiernik 1976 and others) and due to subsequently altered tissue and regional circulation of blood and lymph (Bardytchev and Tsyb 1974 and others). These are regarded to be the main pathogenetic features of the local radiation injuries.

The surgical treatment seems to be the best method, by which the local radiation injuries, especially the radiation skin ulcers, could be repaired. It consists in excision of the damaged tissues and in plastic reconstruction of the resulting skin defect (Polyakov et al. 1974, Bardytchev and Popovskij 1976, Osamu et al. 1971, Robinson 1975 and others).

Various kinds of the skin plasties, differing from the free skin plasty, can be utilized; for example, the Filatov's flap collected from distant parts of the body. They bring about good results, however, they possess many drawbacks as well (e.g. the treatment is prolonged for 3—6 months, special positions are required during migration of the flap etc.).

The results of the surgical treatment of 980 patients suffering from the local radiation injuries of the skin were analysed. It was concluded that the free skin plasty using a split skin graft often leads to good results and makes it possible to simplify the operation and to shorten the time of treatment considerably.

The advantages of this method consist in the fact that the state of blood supply in the recipient bed does not play a decisive role in healing of the graft, that the defects of any size can be covered and that the terms of treatment can be substantially shortened. These features prompted a thorough study, which was undertaken

with the aim to estimate the effectivity of this kind of the plasty both in treatment of the radiation skin ulcers and in a programm of the preventive treatment of the radiation skin fibroses.

MATERIALS AND METHODS

The skin plasty utilizing the split skin graft was applied by 131 patients suffering from radiation skin injuries (the delayed radiation ulcers occurred by 96 patients, the radiation fibroses of the skin and subcutaneous fat tissue by 35 patients) in the age ranging from 13 to 80 eyars. The malignant transformation of the original radiation skin injury was observed by 18 patients. The localization and size of the radiation injuries by the patients are shown in Table 1.

Table 1. Localization and size of the radiation injury

Localization	No. of patients	Area of the injury (cm^2)		
		less than 50	51—100	more than 100
Hair cover of head	24	5	18	1
Jaw-facial region	10	2	8	0
Thorax	6	1	3	2
Upper extremity	10	4	6	0
Lower extremity	41	7	23	11
Gluteal region	14	0	10	4
Abdominal wall	6	0	2	4
Back	20	3	4	13
Total	131	22	74	35

It can be seen from the data that the split skin graft was applied to different sites of the injury. The size of the radiation injury was greater than 50 cm^2 by 109 (83.2 %) patients (it comprised 300 cm^2 or more by 31 patients).

The radiation therapy (a short-focus X-ray therapy applied by 47 patients, an ortho-voltage X-ray therapy applied by 39 patients and a distant gamma-therapy applied by 45 patients) was indicated by malignant tumours (102 patients) and by non-tumour diseases (29 patients). The total absorbed dose in the region of the skin damage was 7 000—16 000 rad in the case of the short-focus X-ray therapy and 4 000—12 000 rad in the case of the distant X-ray or gamma-therapy. It was obtained during one or several courses of the treatment.

The surgical methods

A skin graft formed by a definite part of the skin thickness is called a split flap. With some practice, the recent electrodermatomes enable to cut the split skin grafts

from 0.1 mm to the full thickness. A rotor electrodermatome of soviet production MTRU 42-1609-67 with revolving knives was used by us. The graft's thickness was determined individually in respect to radicalism required for excision of the damaged and always infected tissues, characteristics of the recipient bed, future functional load and cosmetic effect. It was assumed that the thicker would be the graft, the better graft's steadiness might be awaited in the functionally strained regions (hand and foot) and the better cosmetic results could be obtained. However, such grafts heal worse than the thin ones. For the treatment of the radiation skin injuries, the optimal thickness of the skin graft was considered to be 0.5 mm. If a suppurative inflammation might arise or a relatively unfavourable recipient bed was present (periosteum, aponeurosis), there was a 0.2—0.3 mm thick graft utilized. In the ceas of a well-vascularized bed (muscles), a 0.8—1.0 mm thick graft was used.

Table 2. Distribution of patients in respect to the thickness of the skin flap

Graft's thickness (mm)	No. of operations	Result			
		total recovery		partial or total necrosis	
		abs.	%	abs.	%
0.3—0.4	43	40	93.0	3	7.0
0.5—0.6	65	59	90.8	6	9.2
0.7—0.8	16	12	75.0	4	25.0
0.9—1.0	7	3	42.7	4	57.3
Total	131 (100 %)	114	87.0	17	13.0

A distribution of patients in respect to the thickness of the utilized graft and to the result of the skin plasty is shown in Table 2.

The described sequence of the surgical techniques was followed. The operation was started by excision of the tissues damaged by irradiation, performed in the limits of the normal tissue towards the periphery and the depth of the injury. It is important to prevent contamination of the operation wound and a bleeding into it. The aseptic measures should be strictly maintained, as often radiation ulcers are excised (the ulcer is excised in toto, not dissecting its bottom; the instruments are exchanged etc.). When the full haemostasis is achieved (by ligatures, local heath application, haemostatic solutions etc.), the size of the formed defect is carefully measured and the dermatome is correspondingly set up. In view of the above considerations, the magnitude of the dermatome's clearance is calibrated. The donor site (usually the anterio-lateral surface of the femoral region) is smeared with a vaseline and the skin

flap is cut, while the assistant is picking up the graft appearing in the dermatome. The donor site is then covered by a greased bandage, which is firstly changed 6—8 days later. If a split flap 0.4—0.7 mm thick is collected, then the donor region heals up during 12—15 days.

Fig. 1. a — The chronic radiation ulcer localized on the right shin of the patient G. 48 years old. A short-focus X-ray therapy was applied (total dose 10 200 rad) due to melanoblastoma of the skin. b — The same patient. The condition following the skin plasty utilizing the split skin graft (12 days). A total recovery of the graft and a good cosmetic effect can be noticed.

Thereafter, incisions about 1—2 mm long are made on the graft, approximately one per each cm^2, and the graft is sewn to the margins of the defect by separate sutures. In order to achieve close contact of the flap with the wound surface, the sutured flap is pressed by beads and napkins and then tied up by suture threads, thus resembling an "umbrella". The resulting pressure makes the graft to fit closely and secures the capillary haemostasis. The inflammatory exsudate can pass through the incisions and is absorbed by the bandage. In order to prevent the infection already during the operation, the bandage has been soaked up by 10% solution of dimethylsulphoxide (DMSO). This procedure is repeated every day during the next 5—7 days. If further course is uncomplicated, the bandage can be removed on the 6^{th}—7^{th} day and the sutures are taken off on the 7^{th}—8^{th} day.

RESULTS AND DISCUSSION

The correct choice of the skin graft's thickness, peculiar haemostasis, incisions made on the graft, application of the moderate pressure by means of a bandage and sutures and a constant maintenance of the wet condition of the wound by DMSO

solution are the most important details of the split skin graft plasty that favourably influence the results of treatment of the patients suffering from late consequences of the radiation injuries of the skin.

Fig. 2. a — The patient U., 43 years old. The chronic radiation ulcer (20 × 18 cm) localized on the lateral surface of the left thigh, which developed one year after the X-ray therapy of the skin cancer. b — The same patient, 30 days after the free skin plasty utilizing the split graft (0.5 mm). During the postoperational period, a necrosis 2 × 1 cm large was observed in the centre of the graft. It was recovered secondarily.

The free skin plasty ought not to be considered as another alternative way in respect to other methods of the skin plasty. It is applied in the cases, when the size of the radiation injury is considerably large and the recipient bed prepared for the split skin graft is well vascularized and is not contaminated (Bardytchev and Popovskij 1976).

Full healing of the skin grafts was observed by 114 (87.0 %) patients that suffered from the chronic skin ulcers caused by irradiation. By 17 (13.0 %) patients, a partial (6 patients) or total (11 patients) necrosis of the graft occurred. In the case of partial necroses of the skin grafts, the wounds were healed up secondarily during the subsequent 1—1 1/2 months (Fig. 2).

Thus, the favourable results of the skin plasty utilizing the split skin graft were observed by 120 (91.6 %) patients. The application of the thick grafts (1 mm or more) by 4 patients and development of the suppurative infections by 7 patients were the reasons of the total necroses of the skin flap.

Following the skin plasty utilizing the split skin graft, the treatment lasted for 23.6 ± 4.6 days. M. T.

SUMMARY

The delayed radiation local injuries of the skin (radiation ulcers, radiation fibroses) are characterized by repression of the reparatory processes in the irradiated zone. Therefore, the free skin plasty utilizing the split skin graft can be successfully applied. This kind of the skin plasty was chosen, as the thin graft is stabile and independent from the conditions of blood supply of the recipient bed. The split-skin grafts were used by 131 patients suffering from radiation ulcers (102 patients) and radiation fibroses (29 patients) and 91.4 % of the patients were recovered.

RÉSUMÉ

L'application d'un greffe dermo-épidermique autologue en cas du traitement de l'alteration tardive de la peau par radiation

Bardyčev M. S., Kim Ju. A., Petrik V. D.

L'alteration locale tardive de la peau par radiation (ulcère de radiation, fibrose de radiation) est caractérisée par une repression des processus de réparation dans la zone brulée. C'est pourquoi on peut avec succès appliquer une plastie cutanée libre à l'aide d'une greffe dermo-épidermique. Ce type de la plastie cutanée a été choisie parceque le transplantat fin est stable et ne dépend pas des conditions de l'approvisionement par le sang du lit qui doit l'accueillir. Nous avons appliqué des greffes dermo-épidermiques sur 131 patients dont 102 étaient atteints par des ulceres de radiation et 29 par des fibroses de radiation. 91,4% des patients ont guéri.

ZUSAMMENFASSUNG

Anwendung des autologen dermoepidermalen Transplantates bei der Behandlung später Strahlungsschäden der Haut

Bardytschew M. S., Kim Ju. A., Petrik V. D.

Die späten örtlichen Strahlungsschäden der Haut (Strahlungsulkus, Strahlungsfibrose) sind charakterisiert durch die Repression der reparativen Prozesse in der bestrahlten Zone. Deshalb kann die freie Hauptplastik mit einem dermoepidermalen Transplantat erforlgreich benutzt werden. Dieser Typ der Hautplastik wurde gewählt, weil das dünne Transplantat stabil ist und nicht von den Bedingungen der Blutversorgung des Bettes abhängt, das es aufnehmen soll. Dermoepidermale Transplantate benutzten wir bei 131 Patienten mit Strahlungsgeschwüren (102 Patienten) und Strahlungsfibrosen (29 Patienten) — 91,4 % der Patienten wurden geheilt.

RESUMEN

Uso del injerto dermo-epidermal autólogo en el tratamiento de deterioros tardíos de la piel por acción de las raciaciones

Bardyčev, M. S., Kim, Ju. A., Petřík, V. D.

El deterioro tardío local de la piel, ocasionado por las radiaciones (úlcera de radiaciones, fibrosos de radiaciones) se caracterizan por una represión de los procesos de reparación en la zona radiada. Por esto puede ser utilizado con éxito la plastia cutánea libre mediante injerto dermo-epitelial. Este tipo de plastia cutánea fue elejido porque el transplante delgado es estable y no es dependiente de las condiciones de irrigación sanguínea de lecho que lo recibe.

Injertos dermóepidermiales hemos utilizado en 131 pacientes; con úlceras provocadas por radiaciones (102 pacientes) y con fibrosis causadas por radiaciones 29 pacientes — y el 91,4% de los pacientes se sanaron.

REFERENCES

1. **Bardytchev, M. S., Popovskij, V. A.**: The Use of Skin Plasties in Treatment of the Delayed Radiation Skin Injuries. (In Russian.) Vestn. Khir. 3 : 82, 1976.

2. **Bardytchev, M. S., Tsyb, A. F.**: The Conditions of the Local Blood Supply by the Delayed Radiation Skin Injuries. (In Russian.) Med. Radiol. 19/2 : 47, 1974.

3. **Kozlova, A. V.**: Possible Consequences of the Organ and Tissue Damage by the Radiation Therapy of the Malignant Tumours. (In Russian.) Med. Radiol. 12 : 71, 1977.

4. **Kuzin, A. M.**: Molecular Radiobiology of the Cell Nucleus. (In Russian.) Moscow 1973.

5. **Polyakov, V. A., Borisov, E. S., Dmitrieva, V. S.**: Surgical Treatment of Consequences of the Radiation Burns. (In Russian.) Moscow 1974.

6. **Strelin, G. M.**: Regenerative Processes in Development and Healing of the Radiation Injury. (In Russian.) Moscow 1978.

7. **Osamu, V., Kinichi, N., Hiroshi, N. and others**: Surgical Treatment for Local Radiation Injuries Following Radiotherapy. NipponSaigai Ygakai Kaishi 19/8 : 367, 1971.

8. **Robinson, D. W.**: Surgical Problems in the Excision and Repair of Radiated Tissue. Plast. reconstr. Surg. 55/1 : 41, 1975.

9. **Wiernik, G.**: Radiobiological Studies of Clinical Problems in Radiotherapy. In: Radiotherapy in Modern Clinical Practice, ed. H. P. Hopestone, p. 37. London 1976.

Other literature at the authors.

Dr M. S. Bardythev Scientifie Institute of Medical Radiology
AMN SSSR, 24 90 20 Obninsk, USSR

Keio University School of Medicine, Tokyo (Japan)
Department of Plastic and Reconstructive Surgery
Chairman T. Fujino M. D. F. A. C. S.

ONE-STAGE RECONSTRUCTION OF A ESOPHAGOSTOME WITH A LATISSIMUS DORSI MYOCUTANEOUS FLAP AND A PECTORALIS MAJOR MYOCUTANEOUS FLAP (CASE REPORT)

Y. MARUYAMA, H. NAKAJIMA, T. FUJINO

After excisions for carcinoma of the esophagus, reconstruction is essential to allow the patient to swallow his saliva and to eat comfortably.

When a primary reconstruction has failed or has not been accomplished, it requires secondary reconstruction. Reconstruction with local flaps often fails, because of the poor blood supply due to the previous radiation and scarring and sometimes poor wound healing and bad condition of the patient. The difficulties encountered in reconstruction are magnified.

A better understanding of the functional blood supply of skin and muscle has evolved in recent years, and this new knowledge has led to a rational system of flap design and resulted in flaps which are more precise in size and shape and more predictable in viability.

We studied in a preoperative angiography that the pectoralis major myocutaneous flap is adequate to resurface defects of the outer surface of the esophagostome. The pectoralis major myocutaneous flap is superior to the D-P. flap because of possible damages to the perforator of internal mammary vessels by the first operation. (Fig. 1a, b.)

The latissimus dorsi myocutaneous island flap can supply the inner role of the lost esophagus sufficiently.

We present a one-stage method for the repair of esophagus using these two myocutaneous flaps.

Case Report

A 73-year-old male had a large esophagostome on the chest resulting from the operation of the carcinoma of esophagus. (T3 No Mo). He had had a radiation treatment with 5000 rad over 4 weeks prior to the operation. Postoperatively the wounds broke down because of necrosis at the end of the stomach role and complex infection. There remained the large esophagostome on the patient. He was referred to us 3 months after the operation, for repair of the esophagus. (Fig. 2.)

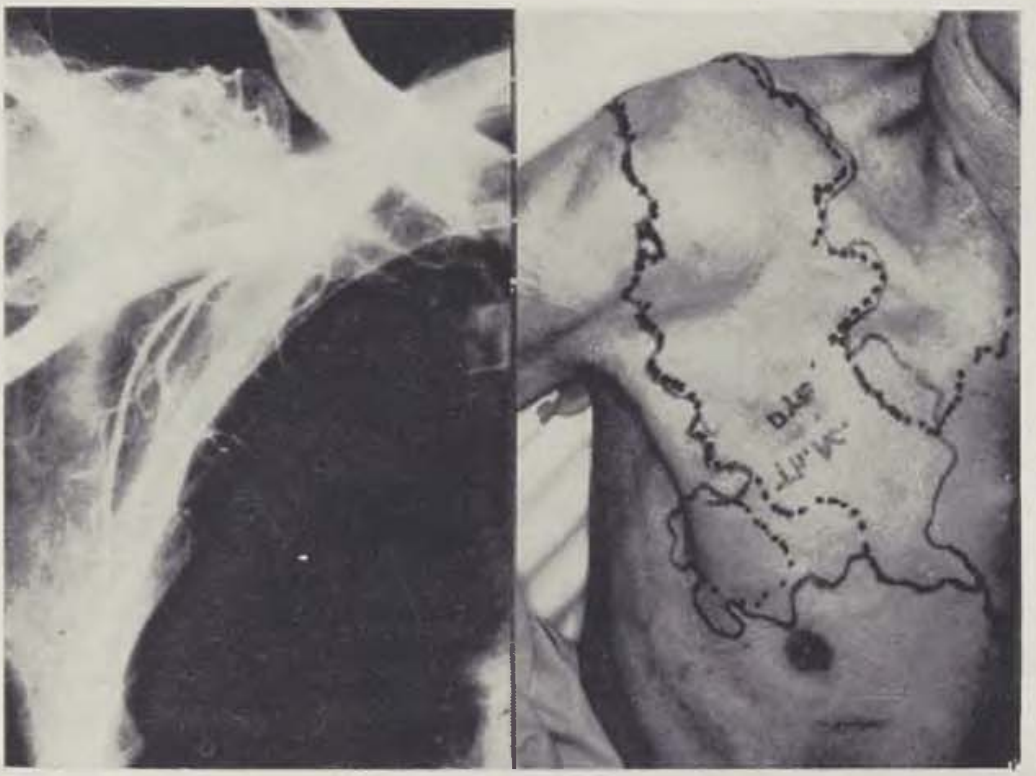


Fig. 1a Super selective angiography of thoraco-acrominal artery. — Fig. 1b PGE1 reveales skin vascular territory of thoracoacrominal artery on the chest. (lined area)

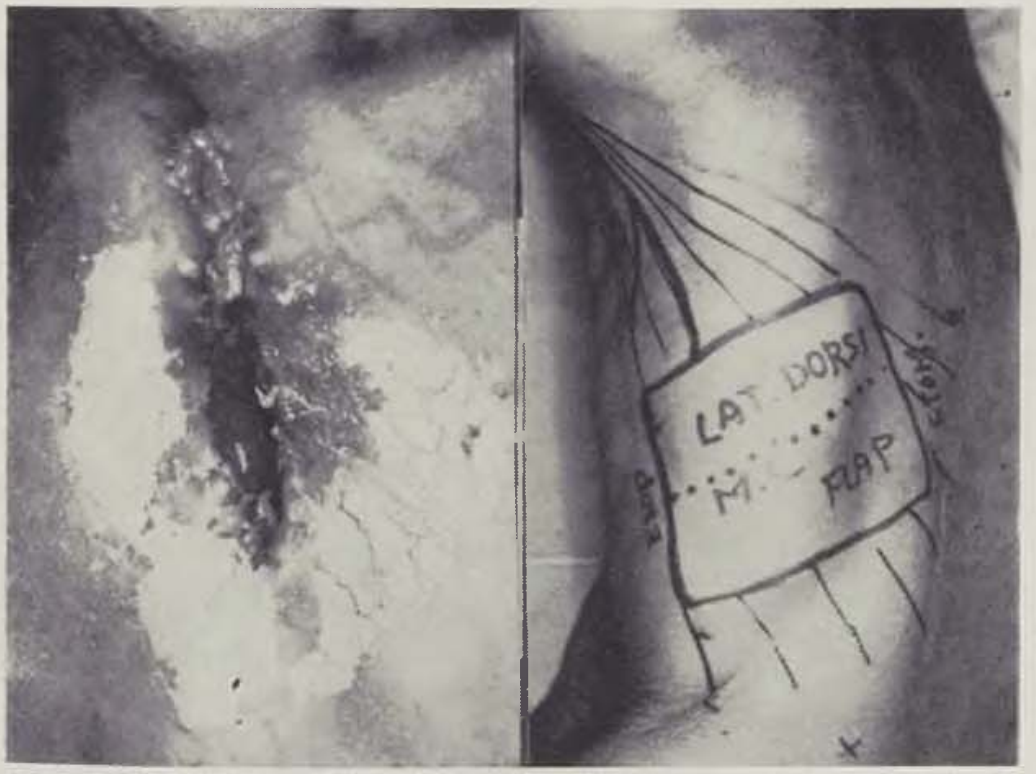


Fig. 2. A large esophagostome after the operation of the carcinoma of the esophagus. Ointment to prevent dermatitis is applied around the stone. — Fig. 3a Design of latissimus dorsi myocutaneous flap for inner lining.

The inner lining for the esophagus was provided by the skin of the left dorsal trunk, carried on the underlying latissimus dorsi muscle. (Fig. 3a.) We preserved the thoracodorsal neurovascular bundle and the proximal attachment of the latissimus

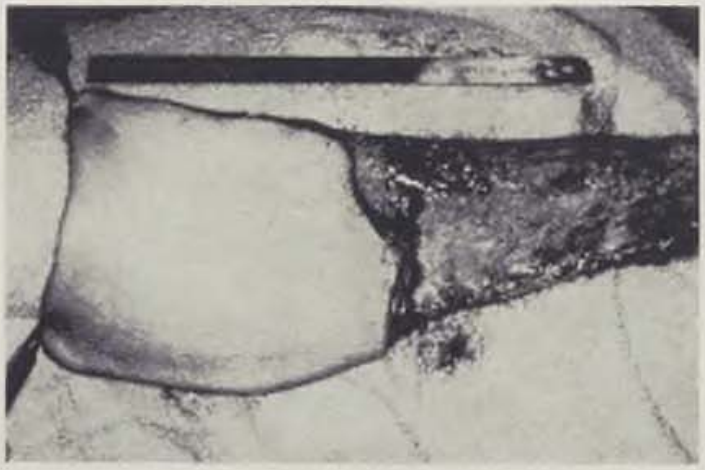


Fig. 3b Latissimus dorsi myocutaneous island flap is elevated, preserving the thoracodorsal vessels and proximal attachment of the muscle.

dorsi muscle. A 10×12 cm skin island on the latissimus muscle was sutured to the margins of the esophagostome and was sutured as a roll. (Fig. 3b, c.) And the muscle was sutured over this to provide a second layer of closure. (Fig. 3d.)

Fig. 3c 10×12 cm skin island sutured as a roll. — Fig. 3d The muscle is sutured to provide second layer of closure.

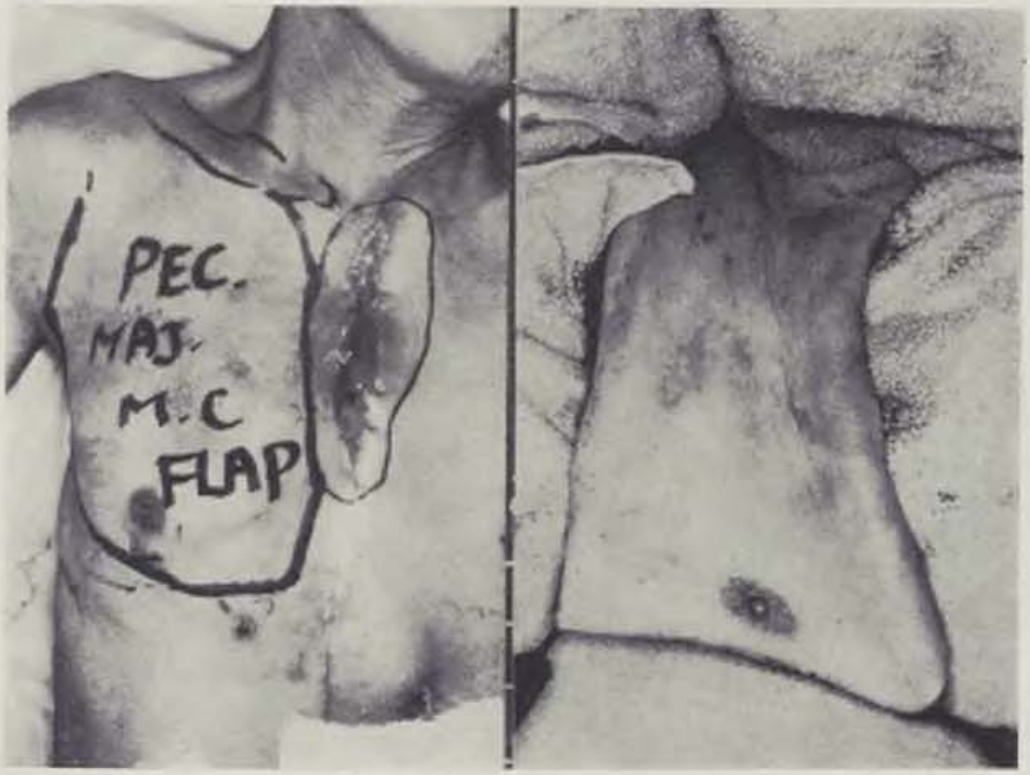


Fig. 4a Preoperative view of pectoralis major myocutaneous flap. — Fig. 4b Pectoralis major myocutaneous flap is elevated (cutaneous side).

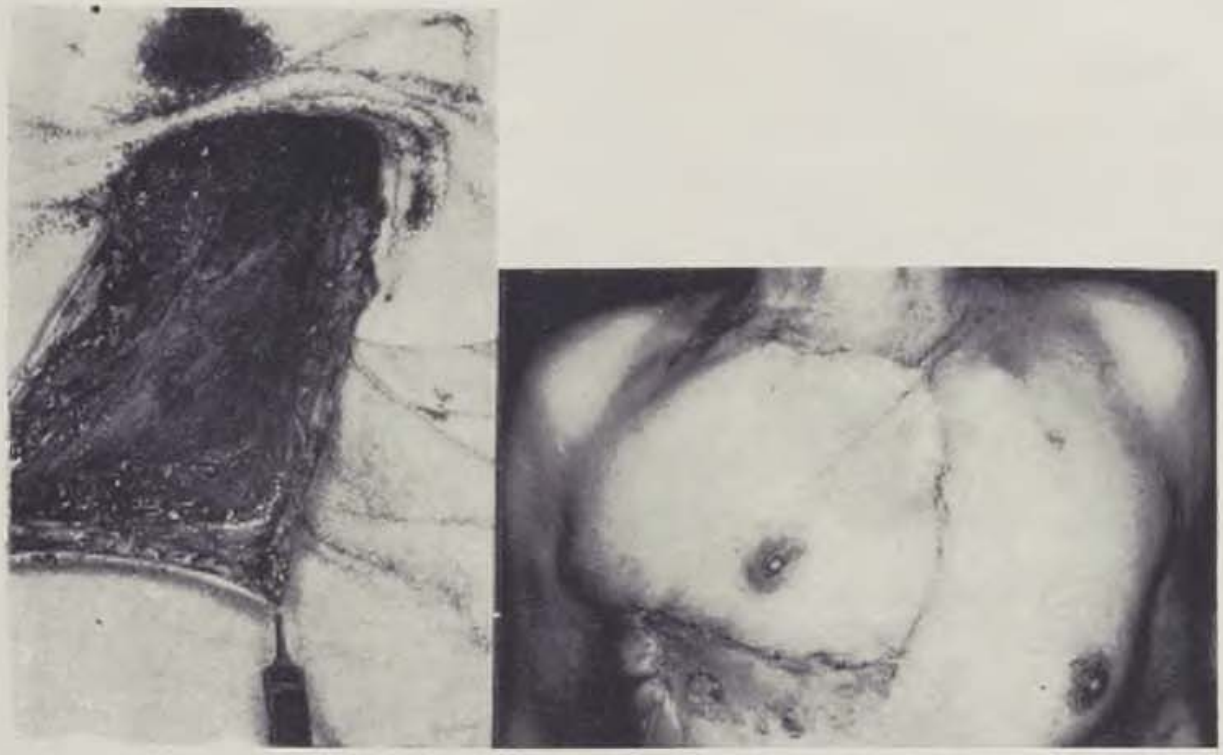


Fig. 4c Posterior side of the flap. Thoracoacrominal neurovascular bundle (arrow). — Fig. 5 Results.

The external wide wound of the chest was covered then with a right pectoralis major myocutaneous flap, while split skin graft was applid on the donor site. (Fig. 4a, b, c.)

The patient did well postoperatively and the area healed primarily. (Fig. 5.)

DISCUSSION

The advantage of myocutaneous flap is to be elevated and transferred in one--stage in their axial area.

The latissimus dorsi muscle is a flat muscle and its blood supply comes from the thoracodorsal vessels branched from subscapular vessels. Its overlying skin can be elevated with underlying muscle as a myocutaneous flap.

The blood supply to the pectoralis major muscle comes from thoracic branch of the thoraco-acrominal vessels. The pectoral myocutaneous flap is also available on the pectoralis major muscle.

According to our preoperative angiography and prostagrandin E 1 injection, thoraco-acrominal artery shows its axial pattern area on the chest. In this case it was suspected that there was a damage to perforator of internal mammary vessels suppling D-P flap, because the stomach role had been introduced under the skin over the sternum at the first operation. These flaps have permanent pedicles and retains their original blood supply, and their 'take' does not depend on the reciepient beds.

The muscles in these myocutaneous flap can be an aid to obtain a water-tight closure over the inner suture line to prevent from fistels by specific anatomical character and exposing bacterial flora.

SUMMARY

One-stage reconstruction of a esophagostome with a latissimus dorsi myocutaneous flap for inner lining and a pectoralis major myocutaneous flap for outer coverage is described.

RESUMÉ

Reconstruction du défaut de l'oesophage par une opération utilisation des lambeaux cutanomusculaires de m. latissimus dorsi et m. pectoralis dorsi

Maruyama Y., Nakajima H., Fujino T.

On décrit la reconstruction du défaut de l'oesophage par une opération utilisant le lambeau cutanomusculaire m. latissimus dorsi pour l'épithélium intérieure et le lambeau cutanomusculaire m. pectoralis majoris pour la couche couvrante extérieure.

ZUSAMMENFASSUNG

Wiederherstellung des Schlunddefekts in einer Operation unter Anwendung von Hautmuskellappen von m. latissimus dorsi und m. pectoralis major

Maruyama Y., Nakajima H., Fujino T.

Es wurde die in einem Eingriff durchgeführte Wiederherstellung des Schlunddefekts beschrieben, bei der ein Hautmuskellappen des m. latissimus dorsi für die innere Schicht und ein Hautmuskellappen des m. pectoralis major für die äussere Deckschicht angewendet wurde.

RESUMEN

Reconstrucción de un defecto de esófago mediante operación en la que se usó un lóbulo de tejido demomuscular del músculo latissimus dorsi y del músculo pectoralis mayor

Maruyama Y., Nakajima H., Fujino T.

En el trabajo se describe la reconstrucción de un defecto de esófago mediante una intervanción quirúrgica en la que se usó un lóbulo de tejido muscular del latissimus dorsi como recubrimiento y de un lóbulo del músculo pectoralis mayor como capa de cobertura exterior.

REFERENCES

1. **Ariyan S.**: One-stage Repair of a Cervical Esophagostome with two Myocutaneous Flaps from the Neck and Shoulder. Plast. reconstr. Surg., 63 : 426—429, 1979.

2. **Bakamjian, V. Y.**: A Two-stage Method for Pharyngo Esophageal Reconstruction with a Primary Pectoral Skin Flap. Plast. reconstr. Surg., 36 : 173—181, 1965.

3. **Bostwick, T., Nahai, F., Wallance, J. G., Vasconez, L. O.**: Sixty Latissimus Dorsi Flaps. Plast. reconstr. Surg., 63 : : 31—41, 1979.

4. **Maruyama, Y., Fujino, T.**: One-stage Reconstruction of Oral Cavity by Use of Pectoralis Major Myocutaneous Island Flap. Keio J. Med. 27 : 47—52, 1978.

5. **Maruyama, Y., Nakajima, H., Fossati, E., Fujino, T.**: Use of a Free Latissimus Dorsi Myocutaneous Flap in Dynamic Reconstruction Cheek Defect. J. Microsurg (in press.)

6. **McCraw, J. B., Dibbell, D. G.**: Experimental Definition of Independent Myocutaneous Vascular Territories. Plast. reconstr. Surg., 60 : 212—220, 1977.

7. **McCraw, J. B., Dibbell, D. G., Carraway, J. N.**: Clinical Definition of Independent Myocutaneous Vascular Teritories. Plast. reconstr. Surg., 60 : 341 — 352, 1977.

8. **McCraw, J. B., Penix, J. O., Baker, J. W.**: Repair of Major Dorsi Myocutaneous Flap. Plast. reconstr. Surg., 62 : 197—206, 1978.

9. **Mendelson B. C., Masson, J. K.**: Treatment of Chronic Radiation Injury over the Shoulder with a Latissimus Dorsi. Plast. reconstr. Surg. 60 : 681—691, 1977.

10. **Olivari, N.**: The latissimus Flap. Brit. J. Plast. Surg., 29 : 126—128, 1976. Other literature available at the authors.

Yu. Maruyama, M. D., Keio University School of Medicine 35 Shinanomachi, Shinjuku-ku, Tokyo 160, Japan

Medical Academy, Sofia (Bulgaria)
Institute of Orthopaedics and Traumatology

SENSORY CROSS-FOREARM NEUROCUTANEOUS FLAP

E. PANEVA – HOLEVICH

The problem relating to preservation or restoration of sensation when dermis with subdermis are transferred to the gripping surface of the hand still remains actual in practice. Island flaps transferred from the adjacent area (Littler[5], Holevich[2], Paneva-Holevich[3] et al.) are applied mainly in cases of impaired sensation or defects on the volar surface of the thumb, much less so if the index is affected. The scope of possibilities was widened when transfer of dermis and subdermis on a neuro-microvascular anastomosis became feasible. However, the method is unlikely to become routine in the near future because of the difficult nature of the surgical technique, its longer duration, and because of the risk of failure with respect to the vessel suture.

In connection with this there is the question of whether the employment of the classical method of transferring a temporary-pedicle flap will, in fact, help restore sensation as a result of anastomosis between the cutaneous nerve supplying the flap and one of the sensory nerves adjacent to the recipient area.

First, we applied this technique on a cadaver using different donor areas. However, before the method was employed at our own clinical department, the same idea was put to a practical test by Joshi[4]. He reports on four cases involving the use of a flap comprising the lateral branch of the 12th thoracic nerve. Unlike Joshi, our own team decided to use a flap transferred from the forearm innervated by n. cutaneus antebrachi medialis.

Surgical technique

In the proximal third of the volar side of the contralateral forearm a skin flap is marked out, a little larger in size than that required to cover the affected area (Fig. 1 a). A longitudinal incision is made over the distal third of the forearm in order to expose n. cutaneus antebrachii medialis at a level somewhat more distalward from its point of origin shared with v. basilica, passing over the fascia brachii. A loose thin wire loop is placed round the branch of the n. cutaneus antebrachii medialis which is to be used later on when the nerve is exposed during the second stage of the operation. The non-sensory thin skin along the volar surface of the finger is the excised all around. The defect is covered with the flap transferred from the forearm and its margins are then sutured to the finger wound defect (Fig. 1 b). The

donor area is closed by pulling the surrounding skin together. Both extremities are then dressed with a soft bandage in a manner designed to eliminated any tension in the flap.

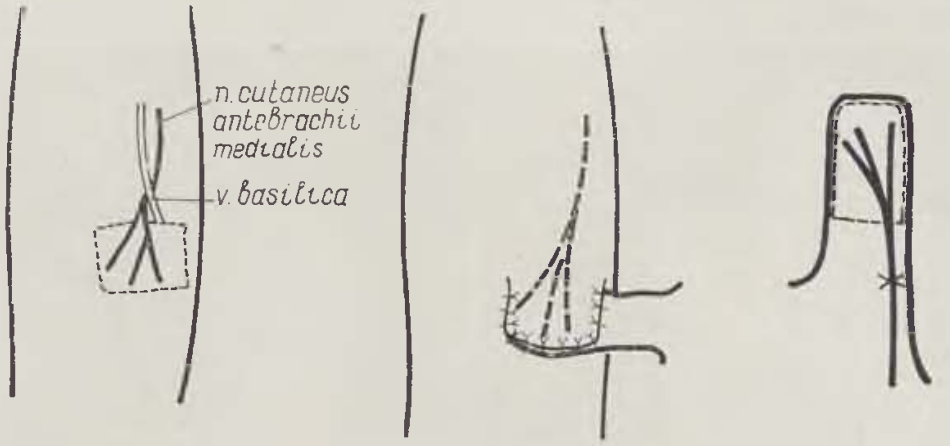


Fig. 1. Surgical technique pattern. 1a — Flap with a branch of n. cutaneus antebrachii medialis is marked out on volar side of forearm. The nerve branch and v. basilica can be seen running alongside each other. The latter facilitates orientation. 1b — 1st stage of transfer. 1c — 2nd stage of transfer. The site of suture linking a branch of n. cutaneus antebrachii medialis to corresponding digital nerve can be seen.

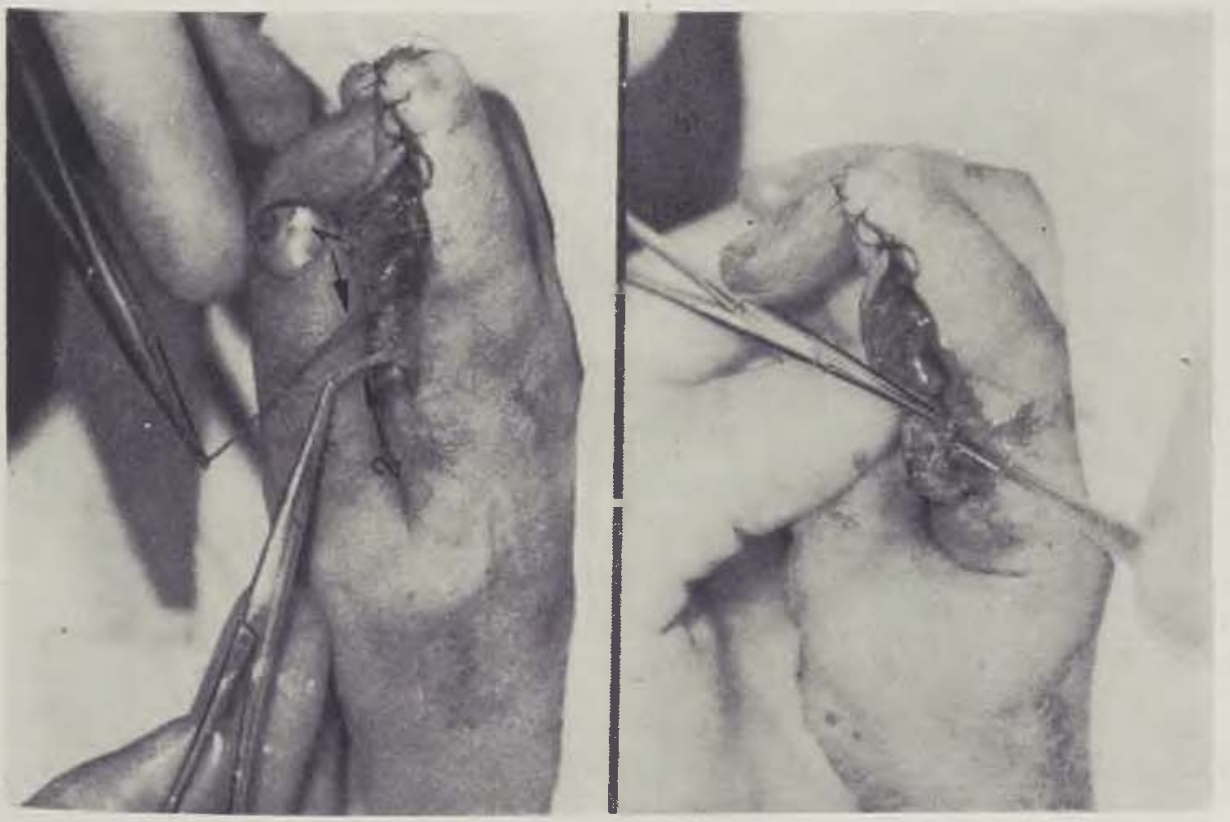


Fig. 2. 4-year old child. Flap transfer. 2a — Flap-innervating flap (1) and digital nerve proper (2). 2b — Site where both nerves are sutured.

The second stage of the operation is performed 22 days later after the flap has become firmly attached to the recipient area. Following this, the n. cutaneus antebrachii medialis is exposed again. The wire loop placed in during the first stage will

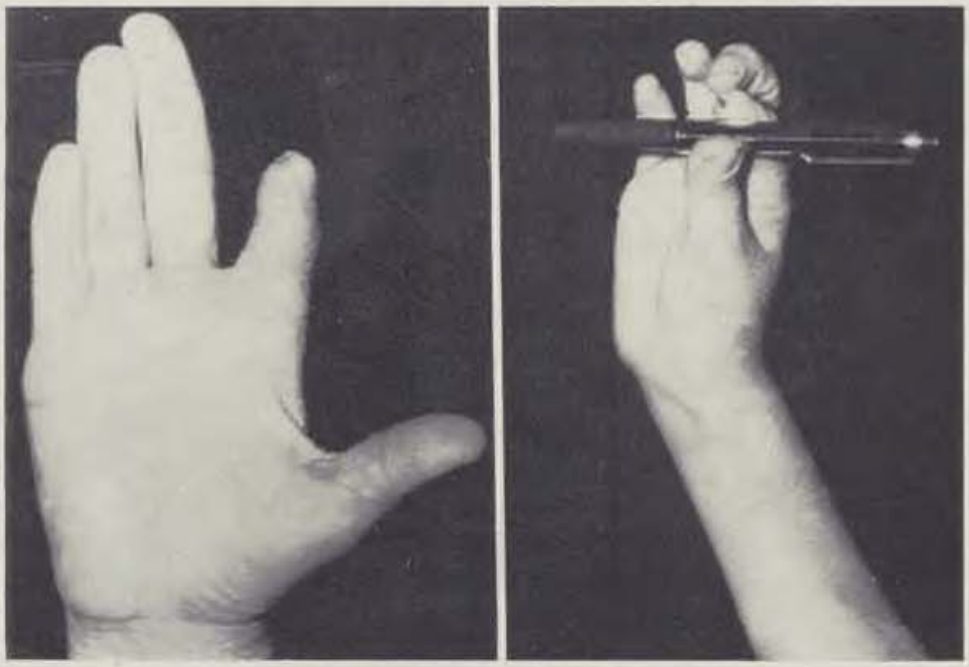


Fig. 2c, d — Results obtained.

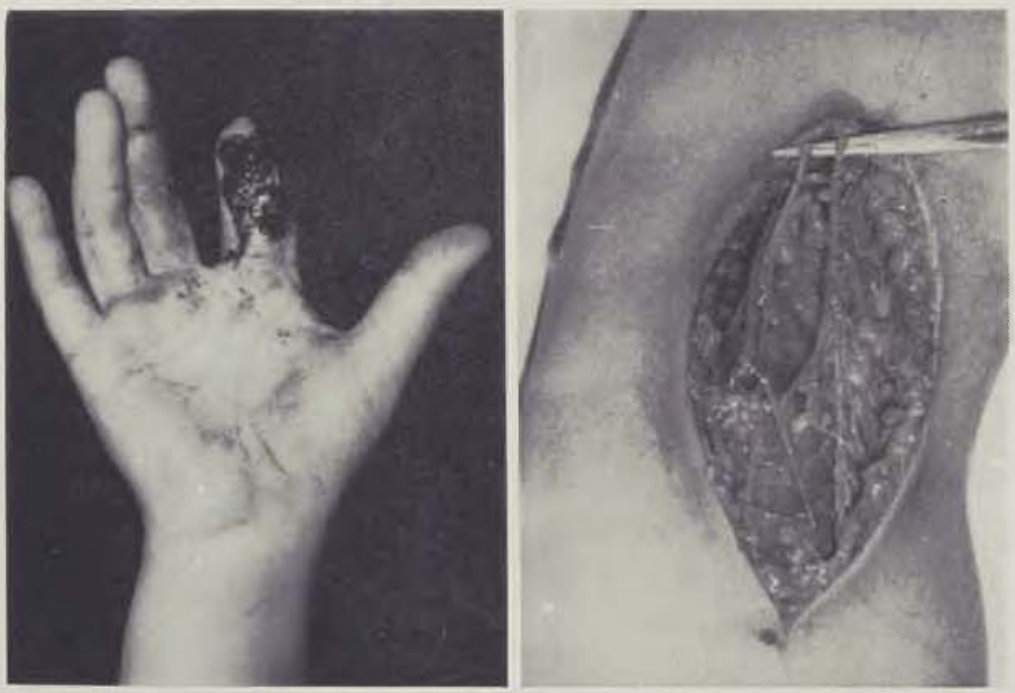


Fig. 3 36-year old female patient. 3a — Initial condition. 3b — Exposure of n. cutaneus antebrachii medialis.

now facilitate the re-exposure of the nerve. The incision is made up to the point where it enters the base of the flap. The nerve branch is cut off at the proximal end of the longitudinal incision, using a blade. Then, the nutritive pedicle is detached carefully to avoid causing any damage to the nerve branches entering the flap.

Fig. 3c — 1st stage of flap transfer.

Proceeding in accordance with the rules of hand surgery, the corresponding n. digitalis proprius is exposed. Using a surgical microscope two epineural sutures are made joining the n. cutaneus antebrachi medialis and the n. digitalis proprius. The sufficient length of the branch of n. cutaneus antebrachii medialis permits suturing without any tension. The detached side of the flap is sutured to the corresponding side of the digit, and this is followed by wound closure on the forearm. (Fig. 1c).

Fig. 3d — Ends of flap-innervating nerve (1) and digital nerve proper (2).

Case reports

The technique was applied in four cases. Two of them are reported on here while the other two patients are still in the course of recovery as they were not operated on until very recently.

Fig. 3e — Sutured nerve ends.

Case 1. A 4-year old child sustained a severe crush injury of the index of the right hand, and the distal phalanx had to be amputated thereafter. The patient was admitted in our clinical unit three months after the accident. The volar surface of the digit was covered with thin ulcerating nonsensory skin. The child was not able to use the digit.

Fig. 3f — Final results.

Stage I of the operation was carried out on March 16, 1978 (Fig. 2 a). Twenty-two days later, the skin flap together with the innervating nerve was detached from the forearm, and the nerve was sutured to the radial digital nerve using the technique as described (Fig. 2 b, c).

By the time of the last check-up, i.e. one year after the operation, sensation very much like that in the donor area had been restored. The patint is now able to use the digit (Fig. 2 c, d). Weber's test was used in order to compare sensation and dermal electroconductivity between the transferred skin flap and the corresponding skin area of the opposite forearm.

Case 2. A 36—year old female patient with a crush injury and skin defect on the volar surface of the index (Fig. 3 a). A skin plastic operation was performed using the method described (Fig. 3 b, c, d, e, f). Sensation had been restored in this patient as in the previous one by the time the wound was checked up seven months after the operation.

DISCUSSION

As follows from our own observations, sensation can be restored in the part of the skin transferred by means of the classical two-stage method involving the suture of the innervating sensory nerve of the flap to the end of the sensory nerve adjacent to the recipient area.

The areas in which such flaps can be shaped are limited so far, though more detailed investigations might well reveal some more possibilities in this respect.

Several months after we had already carried out our first operation (March 16, 1978) Dolich[1], too, came forward with the idea of forearm flaps comprising the n. cutaneus antebrachii medialis though he did not put it to practical use. J. H.

SUMMARY

A new technique is proposed for restoring sensation in a pedicled flap transferred to the volar surface of the affected hand, using the classical two-stage method. The volar surface of the opposite forearm with the skin innervated by ramifications of the n. cutaneus antebrachii medialis is used as the donor area. Once the flap has been detached, the respective nerve branch is sutured to one of the recipient area. The method was applied in four patients.

RÉSUMÉ

Greffe neurocutanée sensorielle provenant de l'avant — bras inverse

Paneva-Holevich E.

On propose un nouveau procédé menant à la restitution de la sensibilité de la greffe sur la surface de la paume d'une main par la méthode opératoire classique de deux degrés. C'est la surface de la paume de l'avant — bras inverse qui est donneur de la greffe. La peau en est inervée par les branches du n. cutaneus antebrachii medialis. Quand le lambeau est détaché il faut coudre la branche neurale correspondante à un nerf se trouvant dans le lit. La méthode a été appliquée chez 4 malades.

ZUSAMMENFASSUNG

Sensorisches Nervenhauttransplantat vom anderen Vorarm

Paneva-Holevich E.

Es wurde eine neue Technik zur Wiederherstellung der Empfindlichkeit des gestielten Transplantates an der inneren Handoberfläche mittels der klassischen Methode der Zweischrittoperation entworfen. Den Spender des Transplantates bildet die zur inneren Handoberfläche gerichtete Fläche des anderen Vorarmes, dessen Haut mit den Ästen von n. cutaneus antebrachii medialis innerviert ist. Nachdem der Lappen freigelegt wurde, wird der entsprechende Nervenast mit einem Nerv im Bett zusammengenäht. — Die Methode wurde bei vier Kranken angewendet.

RESUMEN

Transplante de tejido nervosensorial del antebrazo opuesto

Paneva-Holevich E.

La nueva técnica propuesta para restituir las funciones sensoriales a una transplantación peciolar en la palma de la mano por el método clásico de dos fases operativa. El donante del transplante es la superficie de la palma de la mano del antebrazo opuesto, cuya piel esta inervada por las ramificaciones del nervio cutáneo del antebrazi medio. Cuando el lóbulo se separa, las correspondientes ramificaciones nerviosas se cosen con un nervio del lecho del transplante. El método fue aplicado a cuatro pacientes.

REFERENCES

1. **Dolich, B., Olshansky, K., Babar, A.:** Use of a Cross-forearm Neurocutaneous Flap to Provide Sensation and Coverage in Hand Reconstruction. Plast. reconstr. Surg., 62, 4 : 550, 1978.

2. **Holevich, Y.:** A New Method of Restoring Sensibility to the Thumb. J. Bone Joint Surg., 45 : B, 3 : 496, 1963.

3. **Holevich, Y., Paneva-Holevich, E.:** Bipedicled Island Flap. Acta Chir. plast. 13, 2 : 106, 1971.

4. **Joshi, B. B.:** Neural Repair for Sensory Restoration in a Groin Flap. The Hand, 9, 3 : 221, 1977.

5. **Littler, J. W.:** Neurovascular Skin Island Transfer in Reconstructive Hand Surgery. Transactions of the Intern. Soc. Plast. Surgeons. 2nd Congress — 1959. Livingstone, London, 1960, p. 175—178.

Prof. E. Paneva-Holevich, Institut of Orthopaedics and Traumatologie
Medical Academy, Belo More, Str. 8, Bulgaria

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

A NEW MODIFICATION OF BIGGS' OPERATION FOR THE CORRECTION OF PTOTIC BREASTS

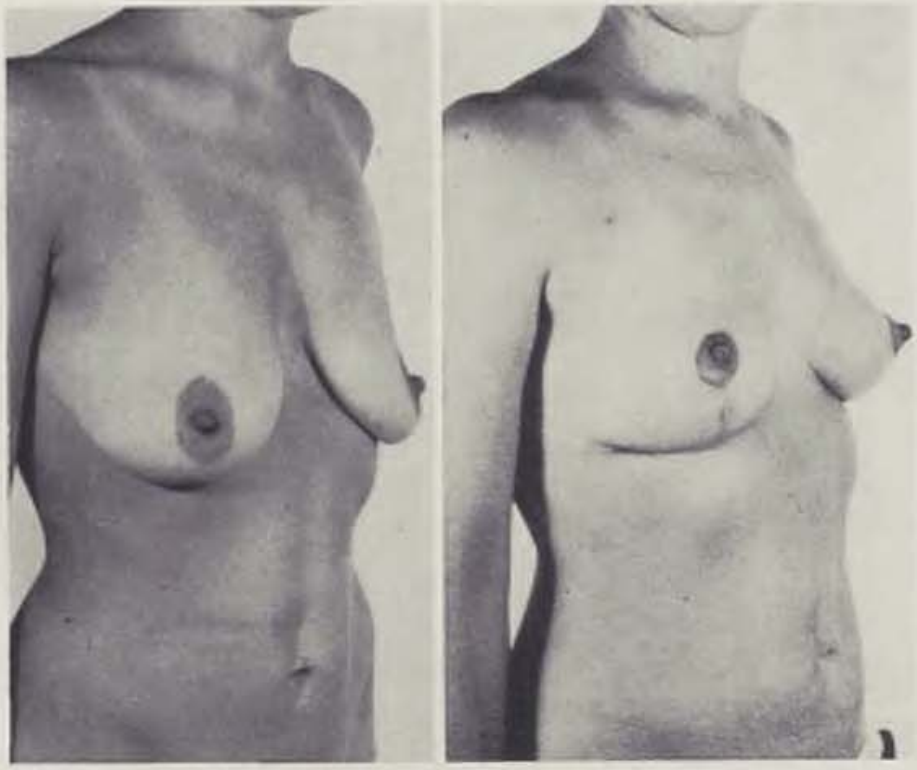
J. HRIVNÁKOVÁ

Augmentation mammaplasty, regardless of whether it follows primary or secondary hypoplasia, or subcutaneous mastectomy, may be performed using different techniques, each of which has its own particular advantages and disadvantages. Adding an insert of prosthetic material appears to be the simplest procedure, be it a porous implant (hydron) or smooth. mostly silicon material filled with non-irritating gel. In any case, a foreign body is implanted, the whole situation being fraught with many a risk. Other procedures mostly make use of autogenous tissues transferred either free from remote sites of the patient's body or as flaps slid from the immediate vicinity of the defect.

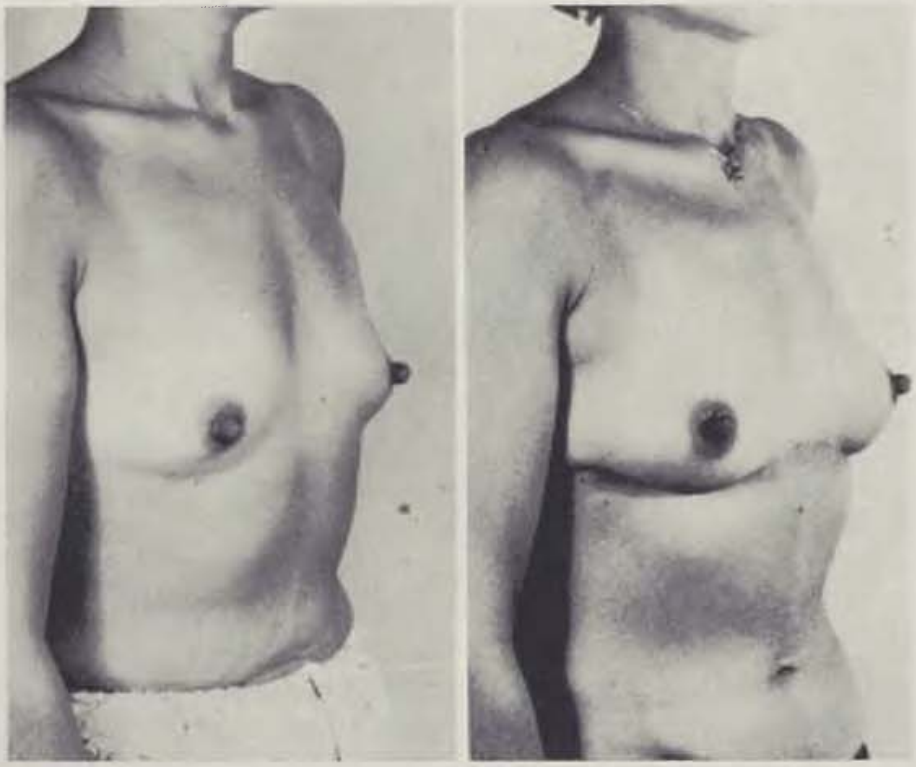
At our own department of plastic surgery two types of autogenous implants are used in essence. While simultaneously reducing the other, hyperplastic breast, the fat thus obtained and sometimes even part of the mammary gland (though the aim is to avoid this) are implanted into the breast planned for augmentation. Healing in is, as a rule, an uneventful affair. More often, however, we prefer — for free transfer — dermo-fat strips taken from the distal portions of the buttocks and rolled to form tubes with the dermis out. Such autogenous grafts, too, heal in well, and, as there is usually an abundance of material and as the strips can sometimes be as wide as 10 cm, the cosmetic effect is, a rule, very good, too. The scars resulting from the tissue withdrawal tend to be inconspicuous.

Another group of plastic operations for breast filling and shaping are those which make use of the dermis complete with the subcutaneous fat from the immediate surrounding of the breast, such as for instance Longacre's operation. The idea is to augment the hypoplastic breast with a dermo-fat halfmoon from the submammary region rolled to form a cone and fixed to the pectoral fascia. Naturally, only minor defects can be made up for using this particular procedure.

In ptotic breasts or in medium-sized breasts indicated for subcutaneous mastectomy, aesthetically satisfactory, smaller but full breasts can be obtained by using all parts of the dermis and fat (naturally after deepithelization) that are normally resected in the course of this or that particular operation. Especially the lower flap in Strombeck's operation is well suited for the purpose.

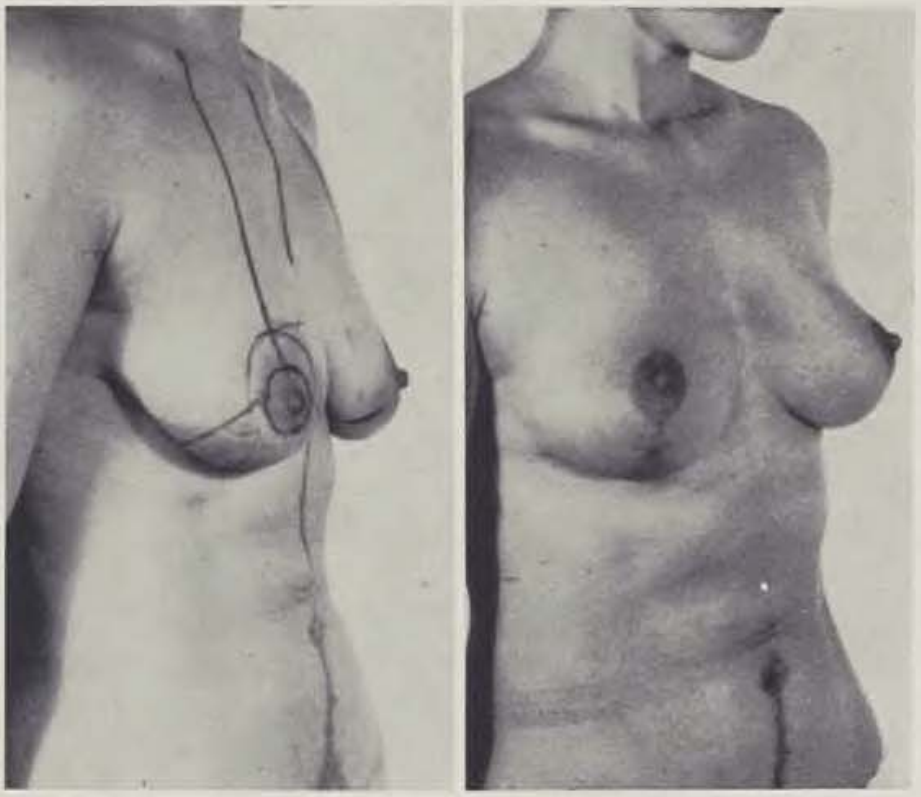


1a, b — Patient Ř. L., cl. n. No. 111 767, state before and after augmentation mammaplasty using dermo-fat flaps from gluteal region



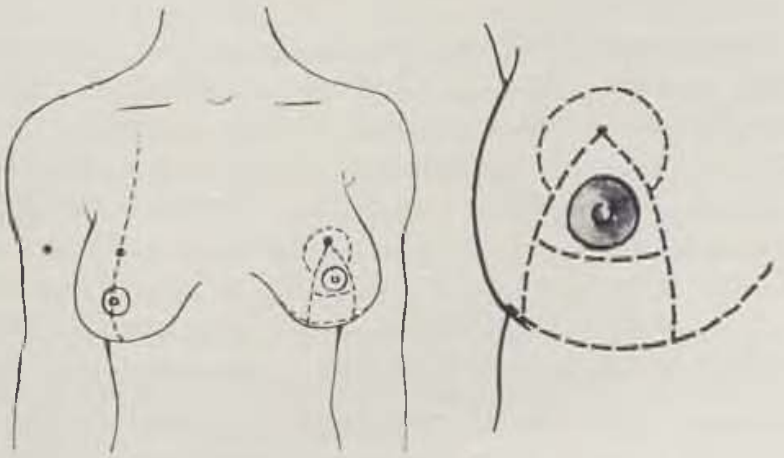
2a, b — Patient V. Z., cl. n. No. 105 637, state before and after augmentation mammaplasty using pedicle dermo-fat flaps according to Lengacre.

In the past two years, we have had some good results using our own modification of the Biggs operation especially in reshaping smaller ptotic breasts or smaller up to medium-sized breasts indicated for mammary gland resection.



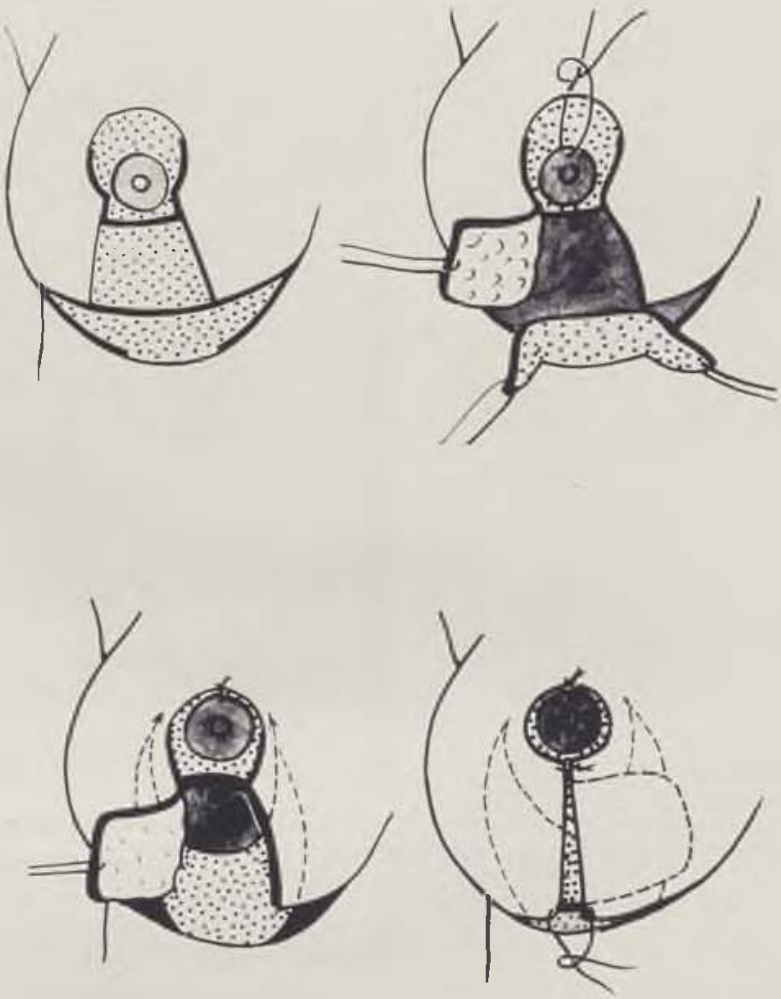
3a, b — Patient Ř. V., cl. n. No. 105 346, state before and after ptotic breasts reshaping according to Strombeck using routinely removed lower flap for breast augmentation.

Instead of the author's procedure of primary implantation of prosthetic material, we prefer to make up for the defect using a deepithelized halfmoon of the skin complete with the subcutis from the submammary region pedicled from the other, i.e. distal end than in Longacre's operation.



4a, b — Pattern of incisions in Biggs' operation.

The portion of the skin designed for breast reshaping is deepithelized uninterrupted simultaneously with the submammary region planned for augmentation. This is then followed by the actual skin incision to lift a laterally pedicled trapdoor

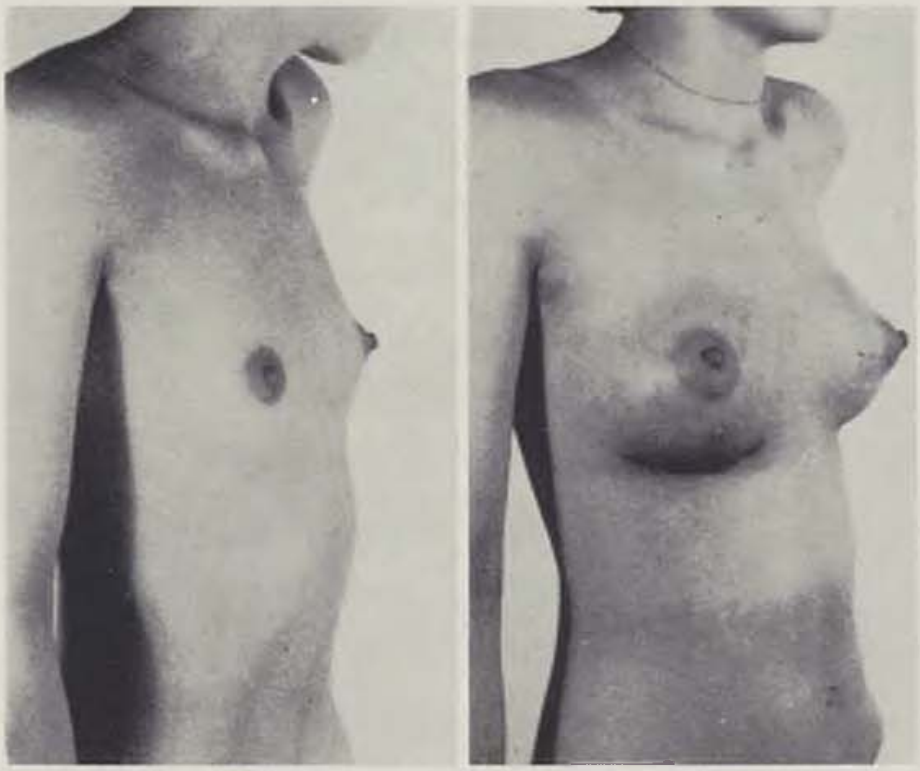


5a, b, c, d — Stages of procedure with the breast reshaped according to Biggs augmented with deepithelized skin flaps from the submammary region.

flap, loosening the periareolar bridge and mobilizing a submammary halfmoon-shaped flap pedicled distally in the centre. In a hypoplastic breast the gland is lifted away from the pectoral fascia and underpinned with the lower deepithelized flaps. In mammary gland removal the lower flaps are rolled in the form of a cone and used for filling in the breast defect. This is then followed by the breast shaping operation proper — according to Biggs — with the breast being further augmented and, in particular, made firmer by slipping a trapdoor-shaped laterally pedicled flap underneath the skin of the medial side of the breast. Its edges are, in addition, fixed with monofile nylon to the periosteum of the ribs or the sternum to avoid sagging.

According to our experience, Biggs' technique appears to be the best and probably the longest lasting method for the prevention of secondary ptosis of breasts after surgical operation. Provided this operation is combined with the above described

augmentation mammaplasty using dermo-fat flaps from the submammary region, satisfactory results can be achieved even where there is a relative dearth of breast tissue either primarily or secondarily following mammary gland removal.



6a, b — Patient Š. J., cl. n. No. 109 410, state before and after operation using the above described technique.

CONCLUSION

Compared with other technique used at the Department of Plastic Surgery Prague for the augmentation of primarily hypoplastic or secondarily defective breasts (mammary gland removal). Biggs' method combined with breast augmentation using dermo-fat flaps from the submammary region appears to have the best and longest lasting effect.

J. H.

SUMMARY

The results are compared of different techniques of augmentation mammaplasty using both prosthetic materials and autogenous tissues transferred either free from distant parts of the patient's body or pedicled from the immediate surrounding of the defect.

The best and probably the longest lasting method of secondary ptosis prevention is seen in Biggs' operation, i.e. in supporting the areola with a laterally pedicled trapdoor-shaped deepithelized flap in combination with augmentation mammaplasty using dermo-fat flaps taken from the submammary region and pedicled at the lower end, all this in place of Biggs' procedure involving the use of prosthetic material.

RÉSUMÉ

Application de l'opération de Biggs pour la correction des seins ptotiques en nouvelle modification

Hrivnáková J.

L'article compare les résultats de différentes formes d'augmentation des seins utilisant comme prothèse des matières plastiques de même que des tissus autogènes transposés soit librement des points éloignés du corps du patient, soit transmis des alentours immédiats du défaut.

L'auteur considère que la meilleure méthode et probablement aussi la méthode la plus durable qui empêche la ptose secondaire est le procédé de Biggs qui consiste à appuyer l'aréole par un labeau latérale privé d'épithélium en combinaison avec l'augmentation du sein par des lambeaux coriograisseux de la région submammaire au lieu du complètement par une prothèse en matière plastique proposé par Biggs.

ZUSAMMENFASSUNG

Anwendung der Biggsschen Operation zur Korrektur der ptotischen Brüste in einer neuen Modifikation

Hrivnáková J.

Die Arbeit vergleicht die Ergebnisse nach verschiedenen Typen der Vergrösserung der Brüste, und zwar sowohl unter Anwendung von Kunststoffeinlagen als auch von autogenen Geweben, die entweder frei von entfernten Körperstellen des Patienten übertraten, oder aus unmittelbarer Umgebung des Defektes verschoben wurden.

Für die beste und wohl auch dauerhafteste Methode zur Verhinderung der sekundären Senkung hält die Autorin das Verfahren nach Biggs, bei dem der Warzenhof durch einen lateral gestielten deepithelisierten türformigen Lappen in Verbindung mit der Vergrösserung der Brust mit Hilfe von an der unteren Seite gestielten Koriumfettlappen aus der Unterbrustgegend gestützt wird — statt der von Biggs entworfenen Ergänzung mit einem Plaststofflappen.

RESUMEN

Utilización de la operación Biggs para la mejoría de los senos ptóticos (caídos) en una nueva modificación

Hrivnáková J.

El trabajo compara los resultados de diversos tipos de agrandamiento de senos, tanto utilizando insersiones de rellenos de materias plásticas, como de tejidos autógenos, transplantados, o bien libremente llevados de otros lugares del cuerpo de la paciente, o bien de tejidos inmediatamente cercanos al defecto.

La autora considera el prodecimiento Biggs como el mejor y probablemente como el más duradero método que elimina descensos secundarios, el cual reside en el apoyo lateral de las mamilas con un lóbulo en forma de puerta hecho a base de un lóbulo desepitelializado, en combinación con un agrandamiento de seno mediante un lóbulo corioadiposo peciolar de la parte submamaria, en lugar del relleno con materias plásticas, propuesto por Biggs.

REFERENCES

1. **Pitanguy, I.**: Mammaplasties. Rev. bras. cir., 42 : 201, 1961.

2. **Pitanguy, I.**: Une nouvelle technique de plastique mammaire. Ann. chir. plast., 7 : 199, 1962.

3. **McKissock, P.**: Reduction Mammaplasty with a Vertical Dermal Flap. Plast. reconstr. Surg., 49 : 245—252, 1972.

4. **Maliniac, J. W.**: Use of Pedicle Dermo-fat Flap Mammaplasty. Plast. reconstr. Surg., 12 : 110, 1953.

Dr. J. Hrivnáková, Šrobárova 50, 100 00 Prague 10, Czechoslovakia

Moscow Scientific Institute of Cosmetology, Moscow (USSR)
Director A. F. Akhabadze, Candidate of medical sciences
Department of the Cosmetic Surgery
Director K. F. Sibileva, Candidate of medical sciences

A CHOICE OF THE OPERATION TECHNIQUE IN RESPECT TO INDICATIONS OF THE COSMETIC BLEPHAROPLASTY

I. A. FRISHBERG

The cosmetic blepharoplasties, i.e. the operations on the eye lids performed for cosmetic reasons, constitute a considerable part of the plastic surgeon's practice. It is a complicated task for the surgeon to select the patients, who will be operated on and to choose from a great number of the therapeutic methods that have been assembled till now the most appropriate one in respect to each patient.

The cosmetic blepharoplasty consists of the following stages: excision of surplus skin on the upper eye lids, excision of surplus skin on the lower eye lids, displacement of the descended lateral eye angle, removal of fat herniations on the eyelids, formation of a natural skin fold on the upper eye lids.

It has been quite clearly proved that a single method of the operation suitable for all the clinical cases does not exist and cannot be existing. The surgeon's proficiency and mastership depend not only on his technical skill but also on his ability to choose and apply the correct method of the plasty on the eye lids.

We perform approximately 300 operations in the eye-lid region a year. In our work, a great attention is payed to indications of the operations. Here, we are going to describe a system, which has been suggested and used for selection of the type of the operation in dependence on the indications. Although all the possibilities are not covered, it deals with the basic clinical forms of the eye-lid slackness due to ageing or some other pathological conditions.

The upper eye lids

The first type. It is seen by persons with a well contoured upper eye lids, thin skin, high position of eye-brows and protruding upper margin of orbita. In this case, the skin fold is usually saved. It is situated rather far from the ciliary margin causing a considerable height of the upper eye lid. A rather great part of the skin may be superfluous, but all the anatomical structures of the eye lid are rather easily reconstructed. In respect to the described anatomical and clinical data, it seems most practical to excise the surplus skin taking into account its uneven distribution

(the greater part of the superfluous skin is usually localized in lateral parts of the eye lid; Fig. 1a). If the surplus skin is visible in the medial angle of the eye, as it is characteristically found by older people, and the eye-brows show a tendency to fall down, an approach suggested by Silver (1969) seems to be most practical. It enables

Fig. 1. A diagram showing the operations performed in the region of the upper eye lids. a — when the surplus skin is moderate, b — when the surplus of the skin is more expressed, c — by descended lateral angles

to excide a twice larger piece of the surplus skin than is usual (see Fig. 1 b). The combination of the described clinical features with ptotic lateral eye angles may be taken as an indication for using a modified Lewis' (1969) technique. It consists in cutting triangles in the skin of the upper and lower eye lids that are transposed subsequently (Fig. 1 c).

The second type. It is found by people with a short upper eye lid, a low position of eye-brows and a faintly contoured skin fold. The eye-lid tissues are usually thicker, protrusions of the intraorbital fat appear ("fat herniations"). Such clinical features require a broader surgical intervention, than only manipulations of the skin cover. These parts of the skin have to dissected: subcutaneous connective tissue, orbicularis oculi muscle, submuscular connective tissue. The orbital fascia is cut by one or several incisions above the accumulated orbital connective tissue, surplus of which is removed.

The third type — by a blepharochalazis. As it is known, it is characterized by the ptosis of an attenuated atrophic skin, which forms shallow wrinkles (symptom of "a rumpled paper"). Dilated blood vessels are visible through the skin. Almost always, the superfluous skin overlaps the ciliary margin of the eye lid, making an impression of an eye-lid pseudoptosis. A ptosis of lacrimal gland was frequently seen as well. The operation technique usually resembles the described techniques, however, the lacrimal gland has to be moved to its normal position and fixed there, and a natural skin fold has to be formed (in many cases). The lacrimal gland is inserted

below the orbital margin and the fissure is reinforced by means of a muscular plasty utilizing the circular ocular muscle (a musculo-periosteal suture).

The fourth type. It is seen by patients, by whom the natural skin fold is missing or its position is low. It may arise as an expression of a particular anatomical orga-

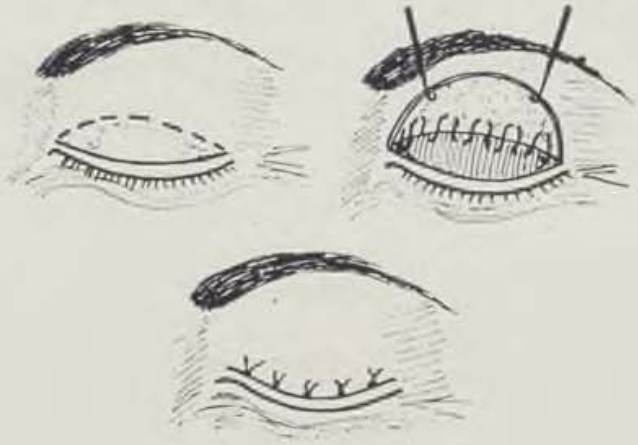


Fig. 2. A diagramm showing the way of formation of the skin fold on the upper eye lid. a — incision of the skin (the position of the future fold is shown by the dashed-line), b — liberation of the skin and application of the inner suture along the fold, c — closing the wound.

nization of the upper eye lids (an insertion of a part of the levator muscle to the skin is lacking) or as a consequence of a pathological process (blepharochalazis, injury, inflammation). It was clearly shown by studies of Sheen (1974) that a simple excision of the superfluous skin by persons with low position of the skin fold (less than 7 mm from the eye-lid margin) did not lead to good postoperational results, if the skin fold was not formed on a higher level.

The methods that have been described in literature as suitable for formation of the skin fold on the upper eye lids are technically rather complex (Fernandez 1960), traces visible on slightly closed eye lids are left (Sayoc 1956, Boo-Chai 1963), or they may be dangerous by causing a development of a paralysis of the muscle lifting the eye lid (Mutou 1972). It is extremely important to prevent displacement of the reconstructed fold downwards during the growth.

An operation technique, which was designed by us, was successfully used. It brings good cosmetic results and lacks the described drawbacks of the other methods. A low incision is led above the lashes, about 2—3 mm apart from the base of the lashes. The skin of the eye lid is liberated about 1.5—2 cm higher than a future fold has been planned. In the uncovered zone, the subcutaneous structures are excised down to cartilage and a thin silk continuous suture is led between the corium of the liberated flap along the line of the fold and the strained levator muscle near the upper margin of the eye-lid cartilage. The surplus skin is then removed and an external suture is applied (Fig. 2). As could be noticed from the description, this method possesses many positive features in comparison with other methods described in literature. They are:

— a low superciliary incision, the scar of which is practically invisible

— a wide and comfortable approach to subcutaneous structures enabling a manipulation with them

— an inner suture is applied between the skin and the levator muscle in such a manner that the fold's contours cannot be revealed on the closed eye lids and the maximal cosmetic success is achieved. As this suture is not directly related to the skin incision, it may be applied on any level of the eye lid, whose shape can be easily corrected, if its symmetry would be altered during the operation.

— a wide subcutaneous adhesion of skin and cartilage, limited by the line of the skin incision on one side and by the line of the future fold on the other side, develops and prevents a downward shifting of the fold.

— a total excision of the surplus skin at the end of the operation, when the eye-lid reconstruction has already been finished.

The lower eye lids

The lower eye lids may also be involved to a varied extent in the ptotic process attacking the tissues. It may become expressed as different clinical features. Although a small mistake in size of the excised tissue on the upper eye lid was practically indifferent, a more radical excision of the lower eye-lid tissues may lead to development of an ectropium, which represents by itself a complicated surgical problem.

During any intervention on the lower eye lids, the patient standing in front of us asked to look upwards. By this way, the lower eye lid is brought to the highest point and its skin is maximally and naturally extended. The surplus skin is determined only in this position.

Fig. 3. A diagramm showing operations performed on the lower eye lids. a — when the surplus skin is insignificant, b — when the surplus skin is moderate, c — when the surplus skin is more expressed.

The first type. The skin is extended, but no surplus skin is visible. However, the skin is found to be attenuated and can be lifted a little from the wall of the eye lids, when it is taken by finger tips. In such cases, a removal of a dermo-muscular flap taken from a subciliary incision and slightly curved by the lateral eye angle seems to be the most feasible intervention (Fig. 3 a). The dermo-muscular flap is excised in the interfascial space lacking blood vessels and therefore the least traumatization is caused, in comparison with other types of the detachment.

The second type. The skin of the lower eye lids is somewhat superfluous and its folding is slightly expressed. The Lewis' (1969) operation consisting in Z-plasty of the lateral eye angles (Fig. 3b) is the most appropriate one in such clinical cases. According to our observations, this operation brought good results. However, the simplicity of the operation is only illusory. We payed our attention to several key points, on which the success was dependent:

1. the colour of the skin on the upper eye lids is different from the lower eye lids, and therefore a transposition of the triangles is inappropriate,
2. the base of the upper triangle should not be strictly perpendicular, but more oblique — it helps to suturing of the top of the lower triangle in the upward and outward directions, thus improving a cosmetic effect of the intervention,
3. the upper triangle of the lower eye lid is sutured being somewhat extended; in the contrary case, it may shrink and become visible on the surface.

The third type. The surplus skin of the lower eye lids is highly developed and is situated below the orbital fold and around the eye angle. The superfluous skin can be removed, only if large incisions are performed enabling wide liberation of the skin (Fig. 3 c; Frishberg 1976).

If the superfluous skin occurs on both eye lids simultaneously, the described methods can be combined, while a degree of expression is taken into account.

The protrusions of fat surrounding the eyeball (so called fat herniations) should be sometimes removed separately, although no surplus skin exists. In order to minimize a traumatization of the eyelids and to improve the cosmetic effect of the operations, a method of short transdermal incisions — punctures made above the accumulated fat has been applied for many years. The incisions are placed along the existing skin lines and practically no suturing is required.

The described operation techniques are suitable for solving various problems of the blepharoplasties or combined situations. Their effectivity has been verified and proved by many years of their application in practice in the surgical department of our Institute. The techniques are recommended to be widely used by plastic surgeons and ophthalmologists. M. T.

SUMMARY

Different surgical interventions are indicated by cosmetic blepharoplasties in respect to the extent, to which the ageing process has attacked one, several or all

layers of the eye-lid tissues. Besides excision of the surplus skin, an extent and a technique of the interventions consisting in manipulations of the subcutaneous structures, connective tissue and muscles, differ in the same way. The modified operative techniques are suggested that are related to their indications and may serve to solving the basic tasks of the cosmetic blepharoplasty, i.e. the excision of the superfluous extended skin and of fat herniations, and the formation of the skin fold on the upper eye lid in cases of its underdevelopment or absence.

RÉSUMÉ

Le choix de la technique operatoire d'après les indications en cas de la blepharoplastie cosmétique

Frišberg I. A.

Les indications des opérations en cas d'une blepharoplastie changent selon qu'il y a une, quelques unes ou toutes les couches du tissu des paupières atteintes par le pros cessus du viellissement. Analogiquement change l'extension et la technique des opération-qui peuvent comprendre à coté de l'excission de la peau excédente aussi la manipulation des structures sous-coutanées, c'est à dire du tissu de ligament et des muscles. Pour les différentes indications nous avons proposé des variantes correspondantes des interventions opératoires menant a la réalisation des tâches principales de la blepharoplastie cosmétique: l'excission de la peau excédente étirée, des hernies de graisse et la création du pli de la peau des paupières supériueres si celui-ci était peu développé ou manquait tout à fait.

ZUSAMMENFASSUNG

Wahl der Operationstechnik nach den Indikationen bei der kosmetischen Blepharoplastik

Frišberg I. A.

Die Indikationen für operative Eingriffe bei der kosmetischen Blepharoplastik ändern sich je nach dem, ob eine, mehrere oder alle Schichten des Augenlidgewebes durch den Prozess des Alterns betroffen sind. Analog ändert sich der Umfang und die Technik der Eingriffe, die ausser der Exzision der überflüssigen Haut auch Manipulation mit den subkutanen Strukturen, d.h. mit dem Bindegewebe und den Muskeln umfassen können. Für entsprechende Indikationen schlugen wir geeignete Varianten von Operationseingriffen vor, die zur Lösung der grundlegenden Aufgaben der kosmetischen Blepharoplastik dienen: Exzision der überschüssigen ausgedehnten Haut, der Fetthernien und Bildung der Hautfalten der oberen Augenlider, wenn sie wenig entwickelt oder fehlend waren.

RESUMEN

Elección de la técnica quirúrgica según las indicaciones en la blefaroplastia cosmética (Plástica de párpado)

Frišberg, I. A.

Las indicaciones para las intervenciones quirúrgicas de blefaroplastia cambian según estén afectadas, una, varias o todas las capas de la piel de los párpados por el proceso de envejecimiento. Análogamente, cambia la amplitud y la técnica de la intervención, las cuales pueden incluir, además de excisiones de piel excesiva, manipulaciones con la estructura sub-cutánea, es decir, el tejido fibroso y los músculos.

Para las correspondientes indicaciones hemos propuesto apropiadas variantes de intervenciones quirúrgicas que sirven para resolver las tareas fundamentales de la blefaroplastia: excisión de la piel estirada exedente, de hernias adiposas o la formación de pliegues en los párpados superiores, en caso de desarrollo insuficiente o de su inexistencia.

REFERENCES

1. **Frishberg, I. A.**: On the Technique of Excision of the Surplus Skin in the Eye-lid Region of the Ageing Face. Acta Chir. plast. 18/2 : 73—77, 1976.

2. **Frishberg, I. A.**: A Method of Formation of a Skin Fold on the Upper Eye Lids. Bull. of Inventions, Discoveries and Industrial Articles, 17 : 17, 1977. (In Russian.)

3. **Boo-Chai, K.**: Plastic Construction of the Superior Palpebral Fold. Plast. reconstr. Surg. 31/1 : 74—78, 1963.

4. **Fernandez, L. B.**: Double Eyelid Operation in the Oriental in Hawaii. Plast. reconstr. Surg. 25/3 : 257—264, 1960.

5. **Lewis, J. B.**: The Z-blepharoplasty, Plast. reconstr. Surg. 44/3 : 331—336f 1969.

6. **Sayoc, B. T.**: Plastic Construction of the Superior Palpebral Fold. Amer. J. Ophthal. 38/4 : 556—559, 1956.

7. **Mutou, I. I.**: Intradermal Double Eyelid Operation and its Follow-up. Brit. J. plast. Surg. 25 : 285—291, 1972.

8. **Sheen, J. H.**: Supraorbital Fixation in Upper Blepharoplasty. Plast. reconstr. Surg. 54/4 : 424—431, 1974.

9. **Silver, H.**: A New Approach to the Operation of Blepharoplasty. Brit. J. plast. Surg. 22 : 253—255, 1969.

Dr I. A. Frishberg, Gorkii Street 19a, Moscow, USSR

Keio University School of Medicine. Tokyo (Japan)
Department of Plastic and Reconstructive Surgery
Chairman T. Fujino M. D. F.A.C.S.

A 5-FLAPS PROCEDURE FOR REPAIR OF STENOSED TRACHEOSTOMA

Y. MARUYAMA, J. KUBOTA, H. NAKAJIMA

Stenosis of tracheostoma following laryngectomy is a distressing complication.

It is a fact that to prevent the microstomia is more important than to emphase the reconstruction of the stenosed trachea.

Montgomery described that careful construction of the stoma, oblique transection of the trachea, and removal of excess fat and skin will reduce the incidence of stenosis.

However this complication (but not frequent) may occur mostly immediately or years after the operation.

A lot of procedures to reconstruct the stenosis of tracheostoma had been described such as, Z-plasty, advancement flap, double Z-plasty, excision of the excess skin, Limberg flap and inverted a procedure.

We report a 5-flaps procedure in reconstruction of stenosed tracheostoma, which has not yet been reported in the literatures.

Surgical technique

The triangular flaps of 2 Z plasties and Y—V advancement flap constitute the 5-flaps. (Fig. 2.)

The siting of the central advancement flap (apical angle is about 60) will be placed on the non scarring surface.

Extending from its apex, a vertical line is drown and this line equal to the side of the triangular flap indicates the advancement extending of Y to V procedure.

Double Z-plasty is constructed by making two converging lines (angles about 80).

Finally these 5-flaps intendigitate to form a zig-zag suture line.

DISCUSSION

The 5-flaps technique utilizes relatively small local flaps, to overcome scar contracture.

The perpendicular lengthning in the long axis of the scar contracture is made with minimal narrowing between the external and internal stoma directions.

Mustarde described similar method to 5-flaps procedure in the correction of epicanthal folds.

Rousso and Hirshowitz have applied this method for the repair of thumb or axillary web contractures.

Montgomery reported that the common causes of stenosis are

1. excessive scar tissue
2. keloid formation
3. excessive fat around the stoma
4. defective or absent trachea rings
5. recurrent tumour

and concluded that no single operation is suitable for all cases because of the variation in countour of the stenoses and underlying pathology.

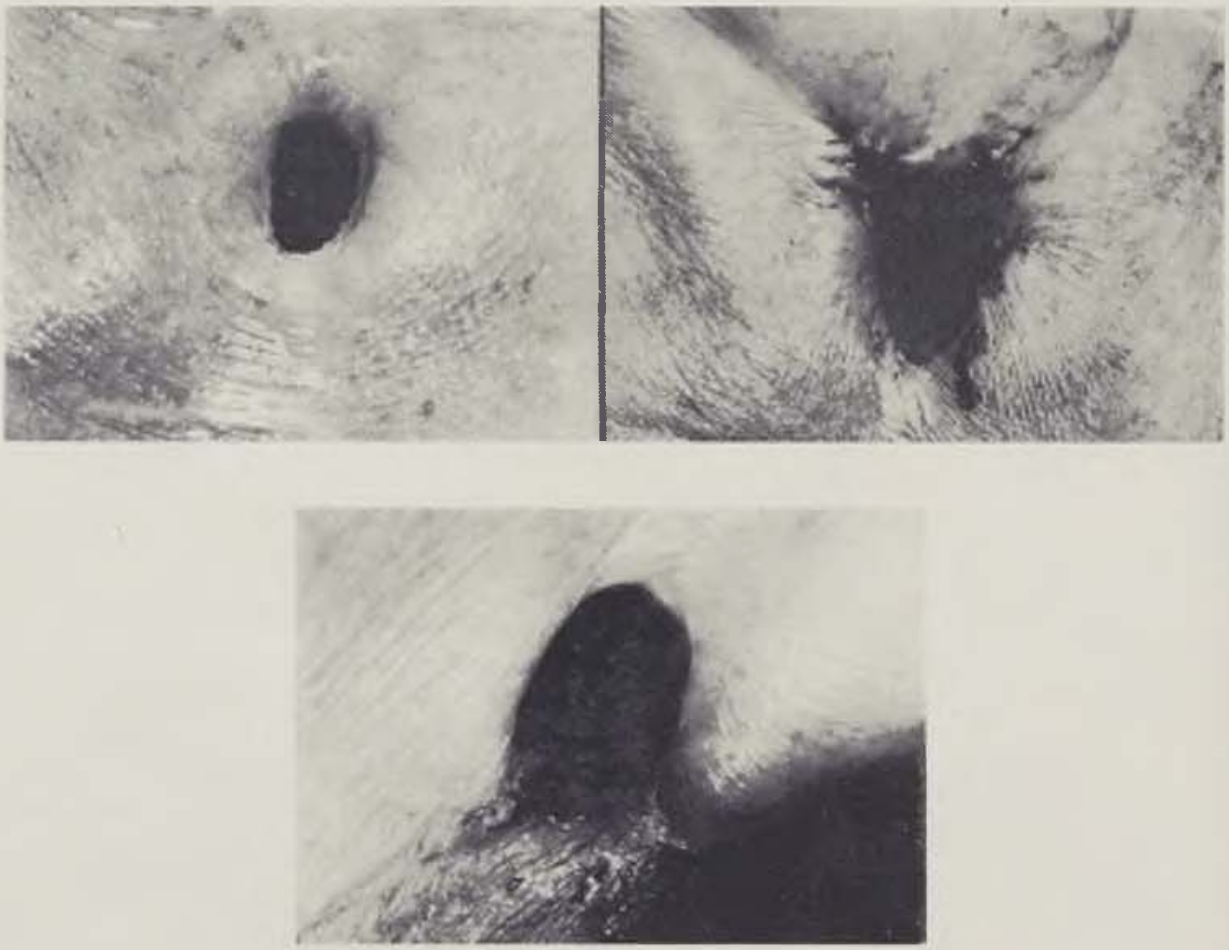


Fig. 1 a — Microtracheostoma following by laryngectomy. 1b — Immediate results after 5-flap procedure. 1c — Final results.

The application of the 5-flaps procedure to the stenosis of tracheal stoma has not been written yet. The design of the flaps and their base-height ratio ensure their viability and no necrosis of flaps has been encountered. Healing has been uneventful as no tension is exerted on the flaps.

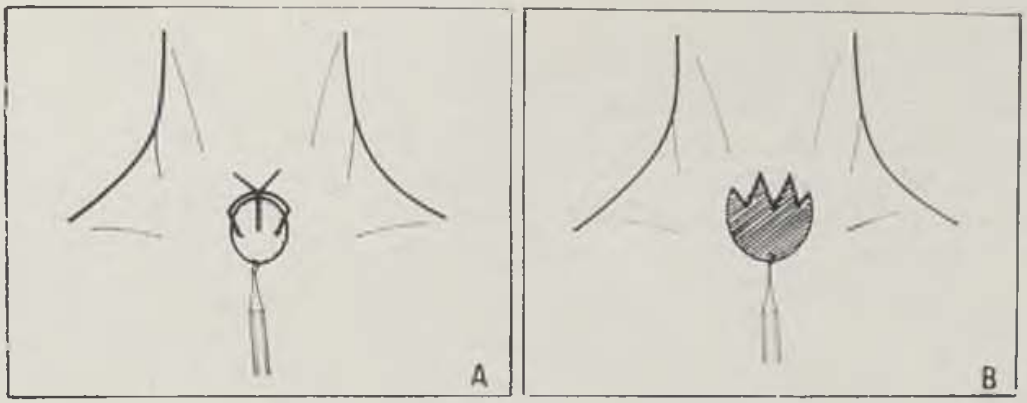


Fig. 2. Schema of the reconstruction (2a before, 2b after with 5-flap procedure.)

SUMMARY

Application of a 5-flaps procedure for reconstruction of stenosis of tracheostoma was presented. We have been gained satisfactory results with this method repair.

RÉSUMÉ

Procédé de cinq lambeaux en cas de la reconstruction de la sténose d'un trachéostomate

Maruyama Y., Kubota J., Nakajima H.

On décrit le procédé de cinq lambeaux en cas de la reconstruction de la sténose d'un trachéostomate. Par cette méthode on a atteint des résultats satisfaisants.

ZUSAMMENFASSUNG

Ein Verfahren mit fünf Lappen bei der Wiederherstellung des stenosierenden Tracheostomas

Maruyama Y., Kubota J., Nakajima H.

Es wurde ein Verfahren mit fünf Lappen bei der Wiederherstellung der Stenose des Tracheostomas beschrieben. Durch diese Methode wurden zufriedenstellende Ergebnisse gewonnen.

RESUMEN

Procedimiento a cinco lóbulos en la traqueotomía estenosante

Maruyama Y., Kubota J., Makajima H.

En el trabajo se describe el procedimiento a 5 lóbulos en la reconstrucción de una traquetomía estenosante. La aplicación de este método ha tenido resultados satisfactorios.

REFERENCES

1. **Montgomery, W. W.**: Stenosis of Tracheostoma. Arch. Otolaryng., 75 : 76—78, 1962

2. **Trail, M. L., Chambers, R., Leonard, J. R.**: Z-plasty of Tracheal Stoma at Laryngectomy. Arch. Otolaryng., 88 : : 110—112, 1968.

3. **Hartwell, S. W., Dykes, E. R.**: Construction and Care of the End Tracheostomy. Am. J. Surg., 113 : 498—500, 1967.

4. **Mustarde, J. C.**: Plastic Surgery in Infancy andChildhood Edinburgh and London B. & S. Livingstone, 1971 209.

5. **Rousso, M.**: Brulures Dorsales Graves de la Main, Reconstruction de la commissure. Technique à Cinq Lambeaux Ire partie, La Première Commissure, Annales de Chirurgie, 29 : 475—479, 1975.

6. **Hirshowitz, B., Karev, A., Rousso, M.**: Combined Double Z-plasty and Y—V Advancement for Thumb Web Contracture. The Hand, 7 : 291—293, 1975.

7. **Hirshowitz, B., Karev, A., Levy, Y.**: 5-flaps Procedure for Axillary Webs Leaving the Apex Intract. Brit. J. plast. Surg., 30 : 48—51, 1977.

Y. Maruyama, M. D., Keio University School of Medicine, 35 Shinanomachi, Shinjuku-ku, Tokyo 160, Japan

Humboldt University, Berlin (GDR)
Clinic and Outpatient Clinic of Surgical Stomatology
and Maxillofacial Surgery of the Department of Medicine
Director: Doz. Dr. sc. med. E. Winiker-Blanck

THE SURGICAL CLASSIFICATION OF BASALIOMA RECURRENCE

E. ROGGENDORF, E. WINIKER-BLANCK, ST. KÖHLER

The low recurrence rate following surgical treatment of primarily untreated basaliomata is well known. According to *Binns and Sheriff*, as well as *Mahler and Hirshowitz* it is 0.5—3 per cent.

However, large basaliomata and basalioma recurrences, particularly, if they have spread so far as to involve the bone, show a greatly increased trend to develop secondary lesions. *(Miescher, Monballiu, Zange and Scholtz).*

According to von Albertini, the little dedifferentiated basal cell of the epidermis not tending to epidermal differentiation forms the cellular unit of basaliomata, while the basalioma cord forms their tissue unit. An organoid tissue differentiation leading to the formation of certain adnexa is possible. Like a malignoma, basaliomata can grow in an invasive fashion. If they exist for a long time, secondary carcinomata may develop. Spiegler's tumours and Brooke's tumour, which is also known as epithelioma adenoides cysticum are regarded as special types of basaliomata, while, according to this classification, Darier's epithelioma metatypique intermediaire already belongs to the undifferentiated squamous-cell carcinomata. A survey of the different views on the pathogenesis and oncological classification of basaliomata is given by Köhler.

During the period from 1960—1974, 46 patients with 54 basalioma recurrences were admitted to the Clinic of Maxillofacial Surgery for surgical treatment. All of them had been treated primarily by surgery, radiotherapy or other methods in other medical facilities.

Despite radical surgical treatment of basalioma recurrences with wide removal including up to 2 cm of adjacent healthy tissue, 13 patients developed secondary lesions, which implies that in 24 % (13/54) of cases the tumour was not controlled although macroscopically the incision had been made in the healthy tissue. 12 patients developed multiple recurrences which in 4 patients finally led to death and in 2 others to incurability. When relating these figures to the total number of basalioma recurrence cases admitted for treatment, it turns out that 11 per cent (6/54) are incurable. Six basalioma recurrences degenerated carcinomatously. After the treatment of 72 primary basaliomata the recurrence rate was 0 per cent. Similar results were

reported by the Clinic of Face and Neck Surgery of the Department of Medicine of Humboldt University, where after surgical treatment 23.5 per cent of 51 patients (12/51) with basalioma recurrences again developed recurrences, which means that the tumour was not controlled by the surgical intervention in 23.5 per cent of cases. Carcinomatous degeneration took place in 7 cases (Roggendorf).

Fig. 1. — ulceration of 0.5 cm in diameter inside ascar of 2.5 × 2.5 cm at the patients hairline. Fig. 2. — an infiltrating type of basal-cell carcinoma which recurred in 1968.

In two thirds of the incurable patients admitted to the Clinic of Maxillofacial Surgery the lesions ranged from palm to hand size. The following case shows, however, that even basalioma recurrences which appear to be macroscopically smaller may lead to the patient's death, if they spread near the bone forming the base of the skull or the skull cap: 1959, M. H., 41 years, medical record No. 7536, University Clinic of Maxillofacial Surgery.

Admission of the patient with a basalioma recurrence on her forehead which had previously been treated elsewhere by surgery, radiotherapy and podophyllin brushing. Despite the macroscopically small size of the recurrent tumour, the patient died from meningo-encephalitis after another 5 surgical interventions and radiotherapy repeated 3 times.

Upon admission there was an ulceration of 0.5 cm in diameter (Fig. 1) inside a scar of 2.5 × 2.5 cm at the patient's hairline. Although the tumour had been removed macroscopically with the incision being made in healthy tissue in 1959, 1964 and 1966, there always developed a recurrent tumour. This permits the conclusion that the tumour had projected beyond the margins of excision and invaded healthy tissue

without causing macroscopically recognizable changes of the skin. Even a cobalt 60 radiation therapy in 1962 could not prevent the tumour from spreading.

In 1959 microscopic findings were those of a basalioma infiltrating into deep tissue planes and showing a certain cellular polymorphism.

It was only the sixth recurrence that showed the picture of an infiltrating type of basal-cell carcinoma which recurred again in 1968 (Fig. 2). It proved to be inoperable because of the extension of the tumour with multiple infiltration of the dura mater, and because carotid arteriography was highly suggestive of the tumour spreading intracranially thereby obstructing the sinus sagittalis superior.

Neurosurgical intervention was rejected because of septic wound conditions. In spite of repeated radiotherapy carried out in 1969 and in 1970 and a stimulation of endogenous defensive processes by way of a nonspecific additional therapy in 1972, the patient died in 1974 of uncontrollable meningoencephalitis.

DISCUSSION

After evaluating the author's own results and the literature, the surgical situation encountered in treating basalioma recurrences can be characterized by the following features:

1. There are no basic differences in the histological findings of basaliomata and basalioma recurrences, which means that the basalioma recurrence, too, has to be regarded as a local tumour which grows in an invasive fashion, especially in cases that are difficult to control.

   The strong trend of inadequately treated basaliomata to develop secondary lesions (24 per cent) despite wide removal with adequate margin in the healthy tissue, forces us to believe that it is only at a relatively late stage that the basalioma cord growing infiltratingly causes a macroscopically perceptible destruction of the layers surrounding or lying above it, therefore remaining occult to the surgeon. The late recognizability is favoured, above all, by basalioma cords being left in deep tissue planes, if these cords are hidden by surgical measures or radiogenic scars.
2. With increasing tumour size and bone involvement, it becomes more and more difficult to control a basalioma recurrence.
3. The increased possibility of carcinomatous degeneration.

   Because of the strong trend of basalioma recurrences to develop secondary lesions, and because of their clinical malignancy we deem it imperative to carry out primary local treatment of a basalioma recurrence in exactly the same manner as carcinoma therapy, with the following demands to be met:

1. Excissions have to be drastic including adjacent tissue of healthy appearance, particularly in the deep tissue planes, and the complete scars of previous therapeutical measures.

   In the case of large basalioma recurrences and such basaliomata as already involve the bone, it may well be necessary to extend the excision macroscopically so as to remove more than 2 cm of healthy tissue.

2. Marginal sections. If, following wide removal, such natural barriers as fasciae, perichondrium, periost, cartilage or bone are reached, and if there is even the slightest doubt as to the radicality of the surgical intervention, these barriers have to be removed separately as marginal sections for microscopic examination under surgery or for embedding in paraffin. This approach becomes problematical if important functional elements such as the eyeball or the dura mater are involved.

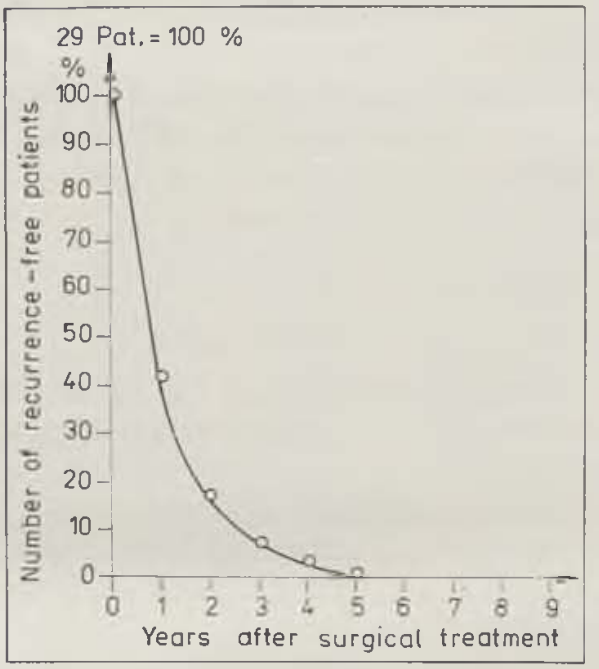


Fig. 3. Latency period up to the next recurrence.

After evaluating the present material no clear-cut therapeutical consequences could be derived in the individual case from the general histological statement of a removal having been "adequate" or "inadequate". Hence, the relevance of a general statement on the radical microscopic removal of a basalioma is relatively poor. More reliable information can be expected to be provided by marginal sections of the margin and bottom of the wound, if these sections are examined histologically in series or at least in sets.

3. Coverings of Defects. In view of the fact that often a tumour situation is obscured by primary surgery, in such recurrence operations no defect coverings other than split skin-grafts must be applied to a soft-tissue surface or bone. If defects of that kind are covered by primary suture, full skin-grafts or flaps, the tumour situation is obscured involving the danger that a remaining cord of basal cells is covered by a soft-tissue layer and can grow unnoticed down to deep tissue planes. For vital reasons the X-rayed dura mater is the only exception from this principle of treatment.
The best time for permanent plastic measures can be derived from the latency period of multiple recurrences. Figure 3 shows the latency period for the development of multiple recurrences following previous recurrence surgery. In 93 per cent of all cases, the next basalioma recurrence occurred within

3 years of the last recurrence operation, in 83 per cent within 2 years of the last recurrence operation.

As far as the classification of basalioma recurrence under the surgical and therapeutical aspects is concerned, it can generally be said that the high recurrence tendency of the tumour is mainly due to 3 characteristics:

1. the occult, infiltrating growth of the basalioma cord,
2. the fact that the tumour situation is often obscured by the primary operation,
3. the increased possibility of carcinomatous degeneration.

These 3 characteristics do not permit a definite assessment of the radicality of surgical measures. They raise the same therapeutical demands as applied to carcinoma surgery, even exceeding the latter with regard to the covering of defects. If necessary, drastic excisions have to be made including more than 2 centimeters of healthy tissue, and the operating field in the bone and soft-tissue regions has to be kept open for tumour follow-up. As regards the indication for mutilating or risky operations the life expectancy of old patients should be an important aspect. In such cases the slow growth of the basalioma permits the adoption of other principles of treatment, as are applied to patients with greater life expectancy.

SUMMARY

On the basis of the natural history of 54 basalioma recurrences treated in the Clinic of Maxillofacial Surgery, and of 51 basalioma recurrences treated in the Clinic of Face and Neck Surgery of Humboldt University in Berlin and considering the experience gained in cases of therapeutically uncontrollable basalioma recurrences as reported in literature, the authors have attempted a surgical classification of basalioma recurrence. The principles of treatment to be derived there from are described.

RÉSUMÉ

Classification chirurgicale des basaliomes récidivant

Roggendorf E., Winiker-Blanck E.

Sur la base de l'analyse des 54 cas des basaliomes récidivant traités à la clinique de chirurgie maxillaire et faciale et l'analyse des 51 cas des basaliomes récidivant de la clinique de chirurgie de maxillaire et de cou a l'Universitée Humboldt de Berlin et en se servant des expériences des cas intraitables des basaliomes récidivant décrits en littérature, les auteurs de l'article ont essayé d'effectuer le classement de cette maladie. Ils constatent des principes du traitement qui résultent du classement proposé.

ZUSAMMENFASSUNG

Chirurgische Klassifikation der rezidivierenden Basaliome

Roggendrof E., Winiker-Blanck E.

Auf der Grundlage einer Analyse von 54 Fällen rezidivierender Basaliome, die an der Klinik für Maxillofazialchirurgie behandelt wurden, und 51 Fällen rezidivierender Basaliome aus der Klinik für Gesichts- und Halschirurgie der Humboldt-Universität zu Berlin und unter Rücksichtnahme auf die in der Literatur beschriebenen, mit der Be-

handlung unheilbarer Fälle des rezidivierenden Basalioms gewonnenen Erfahrungen versuchten die Autoren diese Erkrankung zu klassifizieren. — Es werden die Grundsätze der Therapie angeführt, die sich aus dieser Klassifikation ergeben.

RESUMEN

Clasificación quirúrgica de casos de basiliomas reincidentes

Roggendorf E., Winiker Blanck E.

En base al análisis de 54 casos de basaliomas reincidentes realizado en la clínica de cirurgía maxilofacial y de 51 casos de la clínica facial y del cuello de la Universidad de Humboldt de Berlín y teniendo en cuenta las experiencias logradas en casos incurables de basaliomas reincidentes, descritos en la literatura especializada, los autores intentaron una clasificación de esta afección. Incluyen los principios del tratamiento que se desprenden de esta clasificación.

REFERENCES

1. **Binns, H. J., Sherriff, H. M.**: Brit. J. plast. Surg. 28 : 133, 1975.
2. **Köhler, St.**: Klinische Beobachtung von Basaliomen im Gesichts-Mundhöhlenbereich unter besonderer Berücksichtigung der primär operativen Behandlung. Dissertation, Berlin 1975.
3. **Mahler, D., Hirshowitz, B.**: Harefuah 72 : 453,1968.
4. **Miescher, G.**: zit. nach K. H. Bauer, Das Krebsproblem, Verlag Springer, Berlin-Göttingen-Heidelberg 1963.
5. **Monballiu, G.**: Brit. J. plast. Surg. 21 : 200, 1968.
6. **Roggendorf, E.**: Die onkologische Einordnung des Basaliomrezidivs (1974), unveröffentlicht.
7. **Sundell, B., Gylling, H., Soivio, A. I.**: Acta chir. scand. 131 : 249, 1966.
8. **Zange, J., Scholtz, H. J.**: Z. Laryng. Rhinol. 42 : 613, 1963.

Other literature available at the authors.

Dr. E. Roggendorf, Karl-Marx-Allee 48, 102 Berlin, GDR

NEWS

7th International Congress of Plastic and Reconstructive Surgery Rio de Janeiro — May 20—25, 1979

The decision to hold the Congress in Brazil resulting from a vote taken at the 6th Congress held in Paris in 1975 had made some people fear lest the remoteness of this country from Europe and Northern America should discourage prospective participants from attending the occasion. The fear proved to be unsubstantiated as, on the contrary, the number of active and passive participants and accompanying persons turned out to be larger than four years before in Paris and to exceed the 2,500 mark.

250 papers were presented, 46 films shown and 8 panel discussions organized, each lasting several hours in the presence of leading specialists on each particular subject. The main subjects of the Congress were — microsurgery, tumours and cosmetic surgery of the face, trunk, and extremities.

Among those present were the most prominent plastic surgeons from all over the world, specialists in peripheral neurosurgery and orthopaedics. The Congress as a whole proved once again that progress in the individual fields of plastic surgery, and particularly so in microsurgery and in the comprehensive approach to the treatment of tumours depends on intensive multilateral laboratory and experimental research work. Another point that crystallized at the Congress was that mutual confrontation of different ideas and, in particular, exchange of knowledge, experience, and results of work done by different research and clinical institutes from all over the world are the best feasible and most rewarding at this type of congress held on a global scale but pursving a strictly defined and therefore more narrowly conceived programme.

The Congress took place in a modern, spacious hotel, perfectly well equipped for such occasions — the National Hotel where most of the participants were also accommodated. The rest of the guests were accommodated in nearby hotels mostly situated along the Ipanema and Copacabana beaches, from where they were daily taken to the National Hotel, and at lunch-time and in the evenings taken back to their places of accommodation.

Papers were presented Monday through Friday, i.e. for five consecutive days simultaneously in four lecture halls of the National Hotel Convention Centre; the largest, central hall had a seating capacity of 2,000, the remaining three about 200 each. The organization of the professional and social parts of the Congress was of a very good standard.

The papers were arranged in groups according to related subjects, and followed by group discussions by experts in each of the given ranges of subjects, supplemented and commented on from the floor. English translated into Portuguese was the official language of the Congress.

The following were the most significant cycles of papers:

1. Haemangiomas

The difficulty involved in vascular tumour treatment is confirmed by the growing number of new therapeutical procedures. Some of them should be regarded as involving a great deal of risk and requiring considerable caution and experience, which is why their use cannot be recommended on a general basis. These include treatment with specific embolization (including the orbital region!), treatment with argon laser rays and cryosurgery. In spite of the above new procedures which in any case came under a great deal of critical comment particularly in cases of extensive haemangiomas, surgical extirpation or gradual reduction continue to belong among the most effective and reliable methods of haemangioma treatment.

2. Microvascular surgery

In spite of being the youngest among the plastic surgeon's fields of interest, microsurgery is beginning to take its place among the most prominent problems of plastic surgery and reconstruction. A number of papers were presented and several excellent films were shown. These dealt with such problems as resuturing and reimplantation of injury-separated somatic and extremity parts, partly also with the reconstruction of defects in the face and other parts of the body extirpated for tumour by means of tissue transfer from the groin and the leg in particular.

Several papers reported on microsurgical centres with round-the-clock service designed to provide microsurgical service in traumatology. Such centres are established to serve large catchment areas, well provided for prompt transport of patients, and manned by teams of experienced microsurgeons strictly specialized in this particular field. Authors from such centres were thus in a position to prevent and evaluate hundreds of cases of reimplantation of fingers, whole limbs and acral parts of the face performed in surprising short periods of time and sometimes with as much as 90% success. Considerable attention was devoted to the teaching of microsurgery using experimental animals, especially rats. Other papers discussed some of the higher levels of microsurgery such as transfers of free neurovascular flaps and free vascularized bone, and microsurgery of lymphatic vessels in cases of lymphoedema.

Microsurgery of peripheral nerves and facial paralysis treatment

There were several papers dealing with free neurovascular flaps which, if transferred to areas deprived of nerve supply,prove to be of substantial help for the affected patient's rehabilitation. Of particular interest were papers on the transfer of free intercostal flaps designed to cover up the whole seating area in paraplegic patients, which appears to be a very hopeful, prospective solution to this complicated problem.

According to some of the authors, muscle tissue transferred by means of the microsurgical technique also appears to be an extremely effective method of facial nerve paralysis treatment. M. gracilis and m. latissimus dorsi were reported as being best suited for this particular purpose.

4. Secondary nose

Corrections of the nose already previously operated on because of injury, cleft, or for cosmetic reasons are regarded as one of the most complicated problems of plastic surgery. Dozens of papers presented in Rio on the subject recommended that secondary rhinoplasty had better be avoided by meticulously and highly professionally performed primary operation.

5. Non-European nose

Several papers were devoted to characteristic features of the negroid and Asiatic

nose and that of other ethnic groups, and to the problem of how best to make it look like the white man's nose.

6. Aesthetic surgery of the upper and lower extremities

Presented within this group of papers were reports on different types of surgical treatment of lipodystrophy of the lower extremities, the treatment of axillary hyperhydrosis, inguinal hypertrichosis, brachial flaccidity, senile appearance of the hands, including a demonstration of different techniques of dermolipectomy in all parts of the upper and lower extremities.

7. Breast reconstruction

This particular group of papers dealt with different options and techniques of mammary gland or whole breast replacement after their ablation for malignant tumours. Some of the authors surprisingly recommended the subcutaneous removal of the mammary gland affected by carcinoma and immediate replacement with a plastic insert. However, most of the authors continue to prefer the radical approach to breast cancer treatment although some favour immediate reconstruction simultaneously with ablation.

8. Present-day state of rhytidectomy

Reduction of wrinkled or sagging skin in different parts of the face continues to constitute the bulk of the plastic surgeon's work aimed at cosmetic operations. For that reason, both the number of papers on the subject and the amount of interest in them were out of the ordinary. The Congress failed to bring in much new on the point except perhaps that more attention was justifiably devoted to the stretching of underlying muscles, particularly m. platysma on the neck and m. orbicularis in the eyelids.

Throughout the Congress there were meetings of the Executive Committee of the IPRS, meetings of national delegates and the IPRS General Assembly. A number of important questions were discussed concerning, e.g., the incorporation of new national societies of plastic surgery into the IPRS, the work of different special-interest and regional societies of plastic and reconstructive surgery, and the choice of the venue of the next, 8th International Congress of Plastic and Reconstructive Surgery. This will take place in Montreal in 1983.

By way of conclusion, the 7th International Congress of Plastic and Reconstructive Surgery can be said to have lived up to what had been expected of it both in terms of its professional mission and as regards the strengthening of good and beneficial contacts between plastic surgeons from all over the world.

J. H.

Prof. Dr. M. Fára, DrSc., Šrobárova 50, 100 00 Praha 10, Czechoslovakia

The Third Congress of the Bulgarian Orthopaedic and Traumatologic Association will be held October 10—12th 1980 in Pleven — Bulgaria. The main themes are:

1. Multiple fractures.
2. Congenital anomalies of the upper limb.
3. Congenital anomalies of the foot.
4. Prothetic joint replacement and metal osteosynthesis — round table discussion.

For further information and details please contact:

Assist. Prof. Marin Ganchev, M. D., Secretery General
Higher Medical Institute 89, Dr. Beshev Street
5800 PLEVEN, Bulgaria.

NEW BOOKS

The source book of Plastic Surgery. Williams-Wilkins, Baltimore, 1977. Compiled and published by F. Mc Dowell, M. D., ScD.

The book contains original publications on methods which — became the source and basis of plastic surgery as an independent specialization. The studies were translated into English by different authors, in some cases with excerpts and photographs from the original publications, and with attractive and highly interesting commentaries. The author of most of these is Mc Dowell, who also introduces Section I — Free Skin Transplant Operations — with fitting comments on the cultural and scientific atmosphere of the latter half of the last century in Europe with special references to Paris where in 1869 J. L. Reverdin published the results of his experiments with pinch grafts. His careers is described in a commentary by C. Dufourmentel. This is followed by a relatively little known publication by G. Lawson of London commented on by Peet, a study by L. X. E. L. Ollier with a commentary by S. L. Koch. Dr. May translated and attached a biographical note on a study published by C. Thiersche in 1874. An instructive report by J. R. Wolfe of Glasgou on eyelid skin replacement was commented on by E. Peet; F. Kraus' article was translated by H. May. A highly interesting firts case report on the use of mesh-transplants published by Prof. O. Lanz of Amsterdam in 1908 was translated and commented on by L. Clodius. The last in the series is a publication by V. P. Blaire and J. Barret Brown of 1929 illustrated by pictures of the original transplantation scalpel and suction retractor and supplemented by the results of the clinical uses of skin transplants. The first section is wound up by F. Mc Dowell's epilogue Wars and Skin Transplant Operations from Bismarck to Hitler.

Section II on rhinoplasty covers more than 80 pages. The first item is taken from the Edwin Smith Surgical Papyrus with examples from the original hieroglyphic text on broken nose treatment in ancient Egypt. This one as well as other examples in sanskrit by Sushrut Samhit are supplemented by Mc Dowell's historical notes. Of particular interest are articles on Indian plastic operations involving grafts taken from the forehead introduced by a letter signed B. L. and first published in the then popular Gentleman Magazine in 1794; this was how Europe first learned of this type of substitution rhinoplasty. This had long before been performed in India, and its history continues to be shrouded in mystery despite much that has recently been discovered. A great deal can be learned from commentaries by Mc Dowell, J. S. Paterson of Oxford, J. Mathieu Delpeche, Dr. Bünger, J. C. Carpu, and others who report on their own experience. The beginnings of cosmetic rhinoplasty — correction of the so called pug nose — are described by J. O. Roe. The respect commanding figure of 110 rhinoplastic operations is given in a study of 1889 published by Tribvovandas Motichand Shah of India. Reduction rhinoplasty is discussed by J. O. Roe in a study of 1881. R. F. Weir similarly as V. V.

Czerny report on sunken nose bridge correction using implants; J. Israeli describes the use of bone grafts and rhinoplasty using tissue from the forearm in luetic defects. G. Aufricht translated J. Joseph's classical study on broad nose reduction of 1898 and added a well informed commentary on the significance of the work of this father of corrective rhinoplasty. Mc Dowell translated from German von Malgoldt's study on what was probably the first ever case of cartilage implantation into the saddle nose, as well as J. Joseph's study on nose reduction adding, in his commentary, a list of Joseph's publications.

Section III is devoted to the history of surgical methods in the treatment of harelip. B. O. Rogers introduces the section by reviewing surgical techniques in the 18th and earlier centuries in a chapter entitled Harelip Repair in Colonial America. A number of classical engravings and over 60 old literary references are included. Of special interest is a post--renaissance period article by G. de la Fay of 1743 translated by Mc Dowell and a report by Aarne E. Rintala published 20 years later and translated into English from old Finnish. The techniques of harelip operations as described in 1844 by J. F. Malgaigne and G. Mirault were translated from the French originals by R. H. Ivy. A technique first employed and repeatedly described by W. H. Hagedorn is supplemented by a commentary by Mc Dowell, who also adds a review of subsequent modifications up to the present time.

Section IV — cleft palate surgery. B. O. Rogers presents a comprehensive review of reports on the incidence of cleft palate before the year 1816 when Graefe performed his first successful operation for this defect and published the results in medical journals. This part is interesting for the summary of ancient communications on the contraction of syphilis regarded by many as the cause of clefts, and also for a review of well-known contemporary reports from the field of oral pathology and anatomy, physiology, the use of obturators and surgical attempts. The studies of those interested in this problem will be greatly contributed by the inclusion of 84 literary references. Morel--Fatio translated a report published by P. Roux in 1819 on a case of successful elosure of cleft palate, adding an explanatory note on that well-known French surgeon. P. Roux successfully closed a cleft palate for the author of another article, J. Stephenson of Montreal who published his case in a dissertation written in Latin and successfully defended at the University of Edinburgh in 1820. A report on cleft palate suture published by von Graef in 1820 including a description of the surgical procedure, and translated by H. May is followed by a communication on the suture of cleft palate by J. F. Diefenbach, complete with illustrations of the then used instruments, translated and equipped by explanatory notes by E. Schmid. Then follow communications by Nathan Smith and A. H. Stevens on the first descriptions of cleft palate suture published in America and accompanied by an interesting commentary by Mc Dowell. R. Liston of London writing in Practical Surgery in 1837 and 1846 described cleft palate closure. Liston's biography is attached by the publishers. There are also commentaires on studies published by J. Mason Warren of Boston in 1843, and by J. P. Pettauer of Virginia and W. Fergussen of London. The section includes the translations of two studies on a new surgical procedure published by B. Langenbeck in 1861. R. K. Stellman translated from the German original two papers by K. Schoenborn of 1876 and added the author's biography. Of particular interest is a study by T. Billroth of Vienna translated and commented on by L. Clodius with biographical notes on the author who was the first to recommend post-operative exercise in clefts and to draw attention to the significance of the patient's intelligence and age at the time of surgery. The section is concluded by the inclusion of G. M. Dorrance's

classical study well known to all plastic surgeons, published in 1925 and documented by extensive anatomical studies and introducing what has since been known as the pushback operation.

Section V — cross-lip flaps — introduces by right as the first in succession a study little known even among specialists published by A. V. Stein of Copenhagen in 1848 and translated from Danish by N. C. Peterson who also included a commentary and Stein's original drawing. A surgical technique first reported on by J. A. Estländer of Helsinki in 1872 was translated and provided with explanatory notes by B. Sundell. A third study by R. Abbé of New York taken from Medical Record 53, 1898 is supplemented by R. Stark's commentary.

Section VI — otoplasty contains two studies published in America on protruding external ears by E. T. Ela of 1881 and by W. H. Luckett of 1910 with an interesting commentary attached by B. O. Rogers.

Section VII — facial fractures. In addition to T. L. Gilner's study of 1887 there are two classical illustrated experimental studies on upper jaw fractures by René Le Ford of 1901, translated by P. Tessier who also supplied a commentary and the author's biography.

Section VIII consists of 6 studies on surgical operations in various diseases now routinely treated by means of plastic surgery. J. M. Converse translated and wrote a commentary on H. Morestin's study of 1915 on the useful though largely ignored technique of partial excisions mainly in cavernous haemangiomas of the face. Also very instersting is Blair's paper published in Illinois Med. Journal 46 : 229, 1924 on the effect mechanical pressure has on wound healing. Mc Dowell has some highly interesting notes to make on G. Dupuytren's study of 1832 on palmar aponeurosis contracture translated by A. Paillard and Marve, as well as V. P. Blair's report on two cases of underdeveloped mandible involving mouth opening restriction. At the end there is a translation of V. P. Filatov's article of 1917 on the practical uses of tube flaps — complete with original drawings and A. Barski's biographical notes.

Section IX is devoted to the life stories of famous pioneers whose work continues to provide a source of inspiration to plastic surgery all over the world — G. Dupuytren, J. F. Dieffenbach, von Langenbeck, J. Mason Warren, G. H. Monks, C. F. von Graefe. In conclusion there is J. P. Webster's beautiful and richly illustrated article on V. P. Blair.

The book edited by F. M. Mc Dowell belongs among those which the reader only reluctantly parts with and which he will keep returning to with interest, admiration at and respect for the work of the pioneers of the field such as can be felt in all the outstanding, well-founded and beautiful commentaries mainly those by Mc Dowell himself. All workers in the field should be thankful for Mc Dowell's effort to provide maximum information on the specialization of plastic surgery and, in doing so, to prevent others from discovering that which has been discovered long before. I am hopeful that Mc Dowell's act will provide inspiration to historians of other medical specializations to publishing more older studies mainly also in Europe where in the last century and even before that interesting articles and books were published of which little is now known among the general public of plastic surgeons (books by Zeis, Szymanovsky with many sketches, Amazon and Baumgartner's critical book, etc.).

Prof. Dr. H. Pešková, DrSc
130 000 Husinecká 4, Prague 3

EXTENSIVE BURN TRAUMA by R. Königová and associates. Publishers: Avicenum Prague 1978

In addition to Preface and Introduction the book contains 260 pages of text, summaries in Russian and English, and 223 literary references. It is richly documented

with esay-to-read graphs and tables, and most of the colour photographs attached are on glossy paper.

In the first part, following reflections of some of the problems of substance, the authoress refers to mortality figures in those with extensive burns in conneciton with the patients' age, pretraumatic period, and burn localization, to the causes of death, and to complications in connection with the loss of some of the skin functions and with the degree of alarm adrenergic reaction. There are some highly instructive graphs, the result of the authoress's own experience, on the development of compli-- cations depending on the type of transport, and intervals between the accident and the commencement of antishock treatment.

Having analyzed the essential tasks involved in the emergency shock period 1 day to 2 weeks in duration, as well as the tasks involved in admitting the extensively burned patient and in providing emergency first aid measures, the authoress goes on to deal with the specificity of burn shock. This is due to the special form of inflammatory reaction of both local and generalized oedema interacting with plasma volume reduction as well as with the generally higher degree of alarm reaction. For that reason, tissue fluid replacement and stress complication prevention using alpha--blockers are also emergency measures. The authoress gives a comprehensive outline of the effect increased catecholamine levels have on the liver, on the gastrointestinal tract, the kidneys, skin blood supply and pulmonary haemodynamics — complete with all the necessary therapeutical measures. Also highly instructive are reports on several actual cases treated at the intensive care unit of the Prague institute. The chapter is wound up with a description of initial care of the burned area, and of the significance of positioning.

The next chapter of the first part of the book deals with the burn syndrome or toxaemia which is now frequently referred to as the acute period though it may last weeks or even months. Having defined and mapped out the main tasks for this particular period the authoress goes on to list some of the equally very important though often neglected technical conditions of treatment such as keeping records properly, ensuring routes of access into the venous system, meticulous follow-up of laboratory parameters, and, naturally, well planned therapy. Internal environment care including metabolic change follow-up, and the need to keep infection under constant control call for close co-operation with the biochemist, haematologist, bacteriologist, infectionist and virologist. Ensuring nutrition supplied either per os or, quite frequently, intravenously, and burned area care are both integral parts of the therapy. The authoress gives a list of the principles and method of such care stressing the need for controlling as much as possible situations which might aggravate the burned patient's physical or mental stress.

A whole extensive chapter is rightly devoted to burn infection and its management. The chapter was written by that most called expert Prof. V. Vacek, M. D., DrSc. from the septic station of the Bulovka hospital fever department, to whose co-operation a number of severely burned patients treated at the Prague septic station owe their lives. Since — as the author stresses in the introductory part — there is no other trauma to affect the human body antiinfection defence system so deeply and in such a complex way as burns do, this particular chapter dealing so exhaustively with the subject is bound to arouse the interest of not only those called to treat burns as such but also that of many other specialists. His treatment of the subject of well planned and specific uses of antibiotics is instructive. Dr. Vacek also prepared the chapter on the theoretical essentials of nutrition in the severely traumatized and septic patient. It will be found particularly useful by those who treat patients mainly in cases of polytraumatism. The authors deals with changes of glucose, amino acid, and fat metabolism as seen in protracted traumatic

stress, and goes on to attach practical instruction for clinical practice.

Anaesthesiologists, who are also part of the attending team, are similarly faced with some highly responsible tasks in the treatment of severely burned patients. Dr. Krupková prepared two chapters on the subject. In the first chapter she stresses and substantiates not only the need for having a permanent anaesthesiologist in a specialized therapeutical unit, but also the need for all anaesthesiologists to be well acquainted with the problem. Anaesthesia and resuscitation differ a great deal from those in other patients. The authoress deals with the critical turns and long-term risk in the severely burned patient, the role of the anaesthesiologist at the time of admission and throughout the course of treatment, stressing the need for a combination of premedication and psychotherapy, for an individual approach in the administration of analgesia and anaesthesia, as well as some of the complications involved in the use of certain anaesthetics. In her other chapter she stresses the need for the technical management of cannulation, its advantages, localization with the factors of influencing, cannulation-induced complications in severely and extensively burned patients, as well as indications for its discontinuation. Dr. Šturma, an anaesthesiologist himself, took upon himself the task of writing the chapter on pulmonary complications which are often met in burns and often responsible for a fatal outcome. The author gives a list of the factors responsible for the development of complications, outlining the diagnostics of thermal injury in the upper and lower portions of the respiratory tract, the development of shock lung, the causes of early and late complications, and principle of treatment. Attention is devoted to criteria for the use of artificial pulmonary ventilation, the choice of suitable ventilators, and the methodology of respiratory mixture moistening.

Another very important chapter was prepared by Dr. J. Seeman, DrSc, of the Institute of Hygiene and Epidemiology, specifically devoted to cytomegalovirus infection which belongs among the group of herpetic viruses. Proof of the incidence of this particular type of infection is a world priority wihch has met with great response among specialists particularly interested in the subject. The author emphasizes the importance of virological examination which only few institutes ensure regularly so far. The experience of the Prague team has brought evidence of infection due to this particular virus manifesting itself in both disseminated and organ forms.

Dr. V. Polanecký of the division of infection and epidemiology of the Medical Faculty, Charles University Prague, wrote a chapter on the epidemiology of bacterial infection at the burns unit, adding a series of tables on the incidence of bacterial agents, sources of infection, routes of transmission, as well as on instructions on the prevention of nosocomial infections.

By way of concluding this book of unusual importance for the Czechoslovak health care system, the authoress adds a chapter on special care for those extensively burned, on all the necessary conditions and requirements for technological equipment and for the medical and nursing staff. The latter in particular receive the authoress's special attention as regards the network structure of the attending team, with stress on the need for significance of interdisciplinary co-operation.

The book is a substantial enrichment for both Czechoslovak and world literature on the treatment of one of the most serious types of injury also because it is devoted to the most difficult and most complicated periods — those of shock and of acute condition. The value of the book is in that it was devised and to a large extent written by an authoress with a wealth of personal experience enriched with experience from specialized foreign workplaces. Dr. Königová succeeded in rousing the interest of only her own team but also that of a

number of other specialized experts. It is quite obvious that she knew how to inspire them not only as regards the problems involved but also with her own working zeal, profound knowledge, and rich experience. In her book she managed to show the advantages of therapeutical units designed to provide treatment not only in the immediate post-injury period, but also in the subsequent stages involving the need for reconstructive surgery and follow-up care. The book clearly stresses the importance of intensive care units. The authoress herself has a great share in founding one. It now serves not only for purposes of concentrated care but also for tackling many research problems. One can only agree with what Prof. M. Fára had to say concluding his preface, namely that quite apart from its purely medical and surgical merits the book should also pass on to the reader at least part of the authoress's great enthusiasm for bettering the fate of those severely burned.

J. H.

Prof. H. Pešková, M. D. DrSc.
Husinecká 4, 130 00 Prague 3,
Czechoslovakia

Mc Dougal, W. S.; Slade, C. L., Pruitt, B. A. Jr.; **Manual of Burns Medical Illustrations**: Williams, M., Boyter, Medical Illustrations: Williams, M., Boyter, C. H., Russell, D. P. 1978. Springer Verlag, Berlin - Heidelberg - New York; ISBN 3-540-90319-4; Price: 134 DM, 73.70 US dol.

This sumptuously laid out manual should prove to be a reliable guide in the diagnosis and treatment of burns. The authors devised it as a practical textbook for a wide range of surgeons, anaesthesiologists, internists, and health workers of all categories taking each his or her own share in the treatment of the burned in a multidisciplinary approach to provide optimum medical and surgical care. There are 214 highly instructive and comprehensively devised colour illustrations, making it perfectly clear once again that a good manual of burns depends on high-quality colour pictures.

There are 6 chapters: Initial Treatment — dealing with such subjects as resuscitation, injury gravity assessment, and fluid replacement.

Wound Care — covers the subject of surgical treatment of burn injuries from the point of accident up to wound closure. Nutrition and Metabolism — describes disorders of metabolism and caloric requirements as well as methods of substitution throughout the period of clinical treatment.

Special Types of Burn-Related Injury is devoted to carbon monoxide intoxication, electric current injuries, respiratory tract cauterization and burn injuries.

Systemic Complications of Burn Injury. In this section, the fifth in succession, the authors analyze complications encountered during resusctitation, tracheostomy, sepsis and its manifestations, as well as complications pertaining to the digestive tract.

In the last section of the book, called Complications Requiring Surgical Correction, the authors discus problems involved in the surgical treatment of burn injuries affecting the eyes, external ear, etc. and the removal of contractures. Also mentioned are post-burn bone alterations. At the end of each chapter there are literary references, from which, however, authors from other than English speaking countries are missing.

Altogether, this is a very useful manual with descriptions of basic procedures in burn injury treatment presented in a modern, well-proved, and didactically vivid manner.

J. H.

Dr. R. Vrabec, Příčná 1,
11 000 Prague 1, Czechoslovakia

INSTRUCTIONS TO AUTHORS

Acta Chirurgiae Plasticae, the international journal of plastic surgery, is issued in two versions four times a year. One version is in English (or, as requested by the author, in French or German) and the other in Russian. The aim of the Journal is to make specialists acquainted with the work of authors of the socialist countries, but studies from other countries are also published and welcomed.

Articles are accepted for publication which deal with the problems of plastic surgery and allied branches (clinical, laboratory, experimental studies); they must be original and not yet been published elsewhere. Articles written by authors of the countries which are represented in the editorial board of the Journal, must be given their imprimatur by the respective members.

Kindly send your manuscripts to the following address: Acta Chirurgiae Plasticae, c/o R. Vrabec, M. D., the secretary, tř. Lidových milicí 63, Praha 2, Czechoslovakia.

The manuscript must be typewritten in two copies (1 original plus 1 carbon-copy), one page per sheet, with doublespacing between the lines, 60 types per line and no more than 30 lines per page. There must not be more than five corrections by handwriting per manuscript. The manuscript should not exceed eight pages and contain no more than 10—12 illustrations. The institute the author works at, its director, the title of the article and the full name of the author (or authors), must be stated on the first page. All other pages should be numbered consecutively. Every paper must have a summary which is then translated into French, German and Spanish. The summary, the references and the captions to the figures are to be written each on a separate page and added to both copies of the manuscript. The address of the main author should be given at the bottom of the references. The place where the tables are to be inserted, must be marked in ink on the margin of the text. Figures are to be separate and not affixed in the text. On the back of each figure, the author is requested to write his name, the short title of the paper and the consecutive number of the illustration which must tally with the number marked on the margin of the text. An arrow indicates the way the figure should be set. Photographs must be clear, with good contrast and of the same size (best 6×9 cm.). The tables and graphs should be lined with Indian ink on white paper so as to make them well readable.

References should be limited, quoted from internationally accessible sources and not older than five years. It the number of references exceed ten, the editors are

Quotations should be adjusted according to Czechoslovak norm as follows: Articles in journals — author's surname and initials, title of the article (may be left our), international abbreviation of the journal, volume, number, page and year of issue. For instance: Frazer F. C., Warburton D.: Plast. reconstr. Surg., 33, 4 : 395, 1964.

Books and monograhps — name of author, title of publication, place of issue, publisher, year of issue and — maybe — also page from which quotations has been taken. For instance: Burian F.: Surgery of Cleft, Praha, SZdN 1954.

Manuscripts which do not comply with these requiremens, cannot be published.

The editorial board reserves the right to suggest to the author publication of his article in the form of an annotation, shorten the original manuscript, make corrections or, an account of comments made by the reviewers, return the manuscript to the author for redrafting. The papers must be sent to the editor in their final formulation. The galley proofs are done by the author, but no essential changes are permitted. The authors of original papers receive 50 reprints free of charge and without special order.

CONTENTS