

# TRANSACTIONS OF THE PHILADELPHIA ACADEMY OF SURGERY

*Stated Meeting Held February 2, 1925*

The President, DR. EDWARD B. HODGE, in the Chair

## CRANIAL ENDOTHELIOMA

DR. F. C. GRANT presented a man, fifty-eight years of age, who, when admitted for treatment, presented a large protrusion of the parietal region on the right side of his cranium. (Fig. 1.) The mass was hard not tender; the veins over it were engorged. He stated that for ten years or more the right

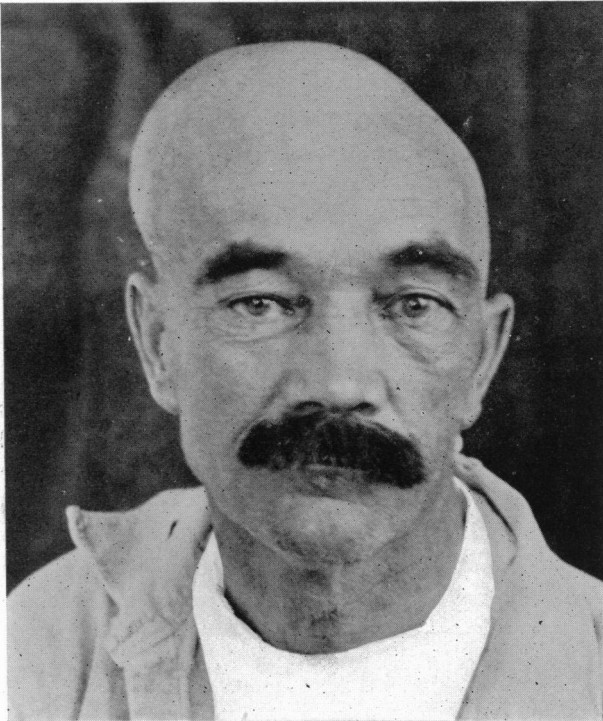


FIG. 1.—Showing cranial exostosis before operation.

side of his head had been gradually enlarging; one year ago he began to have headaches and vomiting; ten months ago convulsive attacks began to occur at intervals of about once a month; these attacks would begin with twitching of the arm followed by loss of consciousness. Nine months ago he began to have weakness of the left side of his body, which gradually progressed until the left upper limb became completely helpless and the left leg notably weaker than the right. He is able to walk and drags the left leg only slightly. With the diagnosis of tumor of the right molar and parietal areas, with hyperostosis of the cranium, he was subjected to a craniectomy in the right fronto-temporal region under local anæsthesia plus three ounces of ether.

A right-sided, fronto-temporo-parietal flap was thrown back to include the greater part of the bony growth. The flap extended up close to the midline and the base was placed in the temporal region. The bone was enormously thick, at least one inch in places, and a good deal of trouble was experienced in cutting the flap. In raising the flap, the dura was tightly

## CRANIAL ENDOTHELIOMA

adherent, all over its inner side, and was badly torn in elevating the bone. The inner side of the bone was porous and eaten away. There was a rough, strawberry-appearing growth, between the dura and the cortex, and adherent to the cortex. It was difficult to free this from the cortex as there were many connections between the neoplasm and cortex veins. It was found possible, however, to make a line of definition and to shell out by careful finger dissection a tumor from the depth of the motor cortex, solid, encapsulated and well-defined, about 5 or 6 cm. in diameter. (Fig. 3.) There was a little sharp bleeding on removing the tumor which was readily checked by a muscle graft.

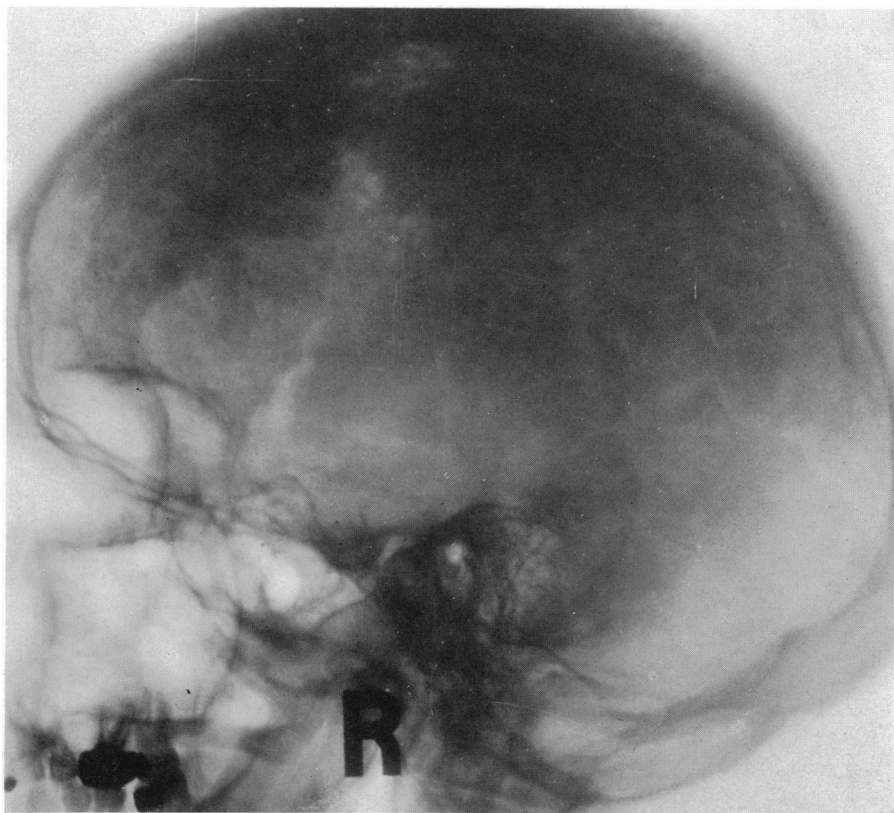


FIG. 2.—Röntgenogram showing bone involvement at cranial vertex, before operation.

The dura had been so lacerated and torn that a large fascial transplant was obtained from the fascia lata of the left thigh and the defect in the dura repaired. The temporal muscle was apparently entirely infiltrated by the tumor mass and for that reason was removed with the bone flap.

After hæmostasis was made as perfectly as possible, the skin was sewed back in place. Patient received 500 c.c. of blood from a suitable donor. Condition on leaving operating table good. He was conscious and answering questions.

*Post-operative Notes.*—Within a week of removal of tumor, the patient had regained completely the use of his arm and leg. After radium treatment, he was discharged. On discharge, he walked normally. Except for slight

clumsiness in the finer movements of his hand, his left upper extremity had regained its function completely.

*Pathological Report.*—Endothelioma. The bone also shows marked infiltration by tumor cells.

Figure 4 shows the operative scar and defect left by removal of the bone flap.

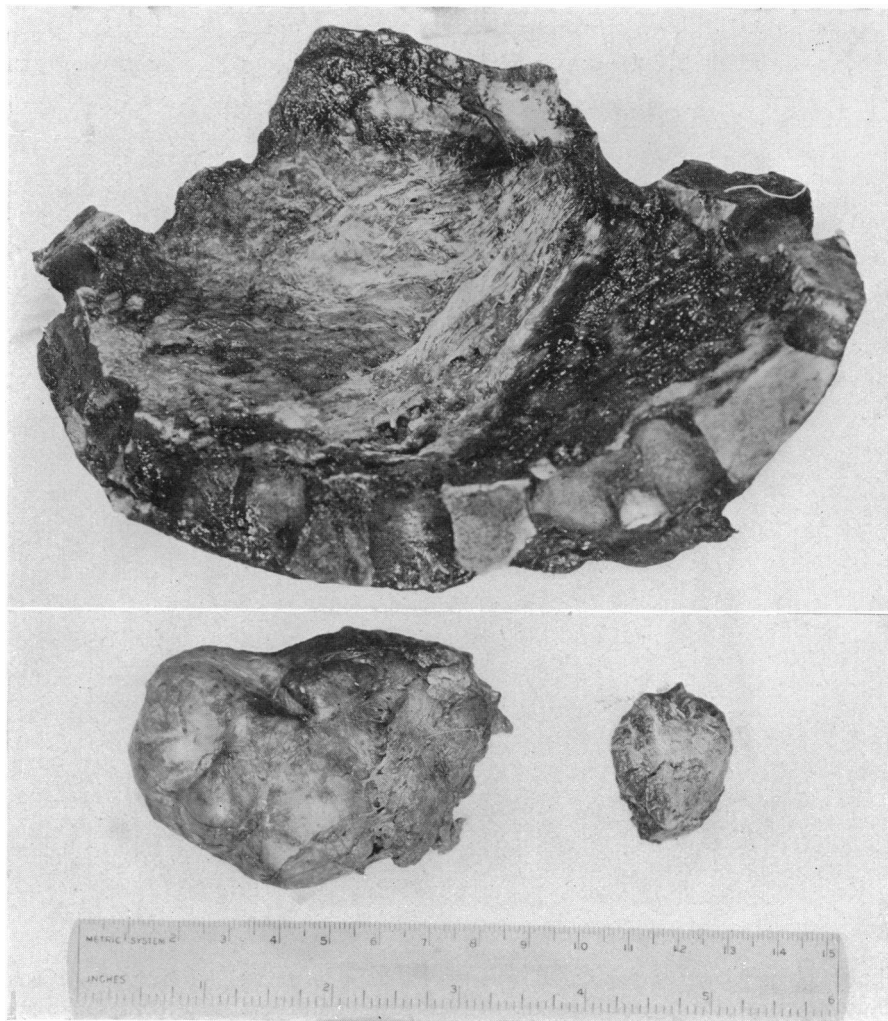


FIG. 3.—Bone flap and tumor mass removed at operation.

DR. ASTLEY P. C. ASHHURST said that at the meeting of the Academy held February 2, 1920 (*ANNALS OF SURGERY*, 1920, vol. lxxii, p. 402), he had reported a case of Jacksonian epilepsy caused by a dural endothelioma, and he took the present occasion to record that examination of the thickened overlying cranium in this case by Prof. Allen J. Smith showed no invasion by the cells of the dural tumor. At the time of the original report the bone

## CARCINOMA OF LATERAL ABERRANT THYROID TUMOR

had not been examined; but the subsequent report by other surgeons of a number of similar tumors in which the bone had been invaded by the tumor, made this report appropriate.

DOCTOR GRANT remarked that in the case presented he had felt certain from the X-ray picture, from the thickness of the bone and the adhesions between the bone and the dura, that the bone had been involved by tumor cells. In most of the cases of meningioma reported by Cushing, the bone was involved. This also occurred in the case recently reported by P h e m i s t e r . With almost certain involvement of the bone, it seemed best to remove the flap in its entirety and leave the patient with a large cranial defect, rather than to replace the bone and chance a recurrence of the tumor.

### CARCINOMA OF LATERAL ABERRANT THYROID TUMOR

DR. ARTHUR E. BILLINGS reported the history of a man, aged fifty-six years, who had always enjoyed good health, until in February, 1923, he first noticed a small swelling about the size of a marble on the left side of his neck. A year later, about January, 1924, he noticed that it was increasing in size. Since then it has enlarged more rapidly. It has never been painful and he says that it has not interfered with his health. He was first seen by the reporter in July, 1924. In his neck was then present a tumor, as large as a small lemon, of firm consistency and not attached to the muscle. It was on the left side beneath the sterno-cleido-mastoid muscle and just below the angle of the jaw. No evidence of glandular enlargement elsewhere. Thyroid is about normal in size and there is no evidence of pathological change in it or derangement of its function.

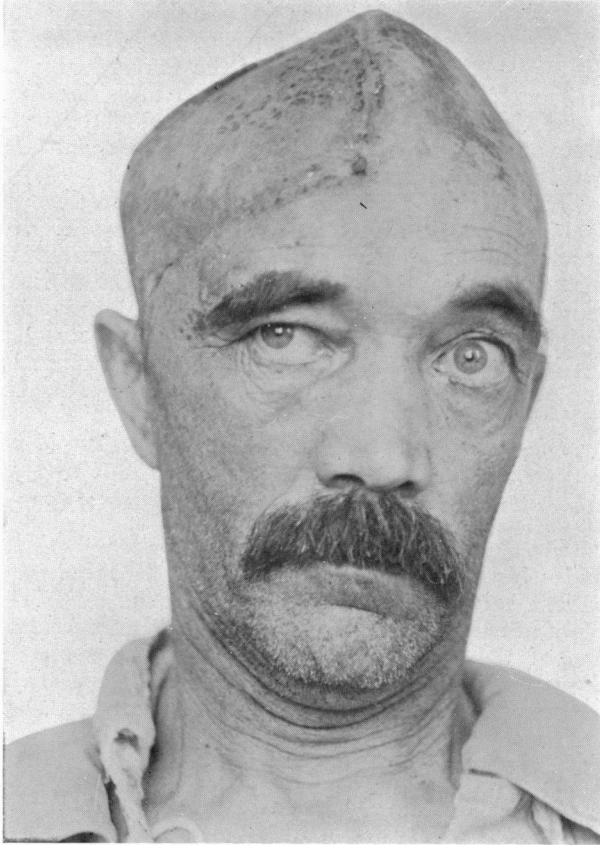


FIG. 4.—Operative scar and defect left by removal of bone flap.

After the first examination a tentative pre-operative diagnosis of endothelioma or lymphosarcoma was made. The patient was referred to Doctor Manges for X-ray treatment and study preliminary to operation. X-ray treatment was continued over a period of three months with very marked

reduction in the size of the tumor. Patient was admitted to Pennsylvania Hospital, November 1, 1924, and November 3 the tumor was excised through a transverse incision following the crease of the neck. The tumor was found to be encapsulated and in close proximity to the vessels—was of reddish-brown color and connected with it by fibrous band was a small gland about a centimetre in diameter. Closely attached to it were some small glands which looked like lymph-glands. A satisfactory clean enucleation was accomplished. Uneventful recovery. The patient was seen less than a week ago. There was no evidence of recurrence nor of metastasis on careful general X-ray examination, and the thyroid seems to be entirely normal.

A pathological examination was made by Dr. John R. Paul, Director of the Ayer Clinical Laboratory of the Pennsylvania Hospital, who reports that on section the substance of the larger mass does not appear as lymphadenoid tissue, but is of a distinctly spongy texture which is dark red in color. One other mass shows a similar texture, but the others appear as normal lymph-glands.

*Histological Examination.*—Sections of these masses show all of them to be of lymph glandular origin with two of them containing infiltrating tumor tissue evidently carcinomatous in type. Primarily the structure of the tumor is essentially alveolar, its resemblance to irregular thyroid tissue being unmistakable, with many typical thyroid alveoli containing pale-staining colloid and again with areas showing inter-alveolar papillary projections of the living epithelium. In other places the tumor loses its alveolar structure and seems to infiltrate neighboring lymphoid tissue in masses similar to an epidermoid type of tumor.

*Diagnosis.*—Carcinoma of (aberrant) thyroid with regional metastasis.

#### ADENOCARCINOMA OF THE NASAL PASSAGES

DR. ASTLEY P. C. ASHHURST reported the history of a man, who came under his care first at the Episcopal Hospital in the autumn of 1922, the patient being then twenty-eight years of age. His history was that four years previously, in October, 1918, he first consulted Dr. Charles C. Biedert, one of the aural and laryngeal surgeons connected with the hospital, on account of obstruction of the right nostril. His weight at this time was 113 pounds, his normal weight being 154 pounds. Doctor Biedert found a soft and mushy growth which bled freely when touched, entirely blocking the right nasal passages; the growth seemed to spring from the septum. Portions of it were removed from time to time, but the growth always returned rapidly. Pathological examination, in December, 1918, by Dr. C. Y. White, showed "inflammatory growth; mucous membrane shows adenomatous proliferation; no tumor formation." Examination of some tissue removed August 10, 1920, showed adenocarcinoma. The man's general condition improved somewhat, however, and he gained weight. In the summer of 1922, the patient was referred to Dr. W. L. Clark, of Philadelphia, for treatment of the growth by electro-dessication. After some months the patient returned to Doctor Biedert with partial destruction of the right ala of the nose, and with the tumor growth unimproved. Doctor Ashhurst was then consulted. At this time (September, 1922) the man looked sick, though his weight was about 140 pounds. Both nostrils were filled with friable grayish granulation tissue, which bled readily when touched. As the nasopharynx was completely blocked by the tumor mass, the condition of the maxillary sinuses was uncertain. The X-ray examination showed an apparently normal sinus on the left, whereas the right antrum was opaque.

## ADENOCARCINOMA OF THE NASAL PASSAGES

The first operation was done September 29, 1922, consisting of ligation of left external carotid; excision of cervical lymph-nodes; excision of right external carotid. Incision 5 cm. long over the left external carotid artery. Enlarged lymph-nodes excised. External carotid ligated at its origin. Second incision on right side of neck, from mastoid downward for 8 cm., slightly convex anteriorly along anterior border of sternomastoid. No lymph-nodes were encountered. The external carotid was identified at its origin and doubly ligated. The superior thyroid, arising between the ligatures, was also doubly ligated. Both the external carotid and the superior thyroid branch were then divided between the ligatures. The carotid was then dissected upward, according to Dawbarn's technic (1903), doubly ligating and dividing in their turn, the lingual, facial, occipital, internal maxillary and common temporal arteries. The trunk of the external carotid was then removed. The operation on the nose was postponed because the patient's pulse rose to 160 at the close of these operations. Considerable time had been lost before beginning the operations, in an attempt to give the ether through an intratracheal tube. It is believed that if this had been successful the entire operation could have been completed at one sitting, as the steps of the actual operations consumed only about 45 minutes. The attempt at intratracheal etherization was abandoned because of profuse and persistent vomiting; the patient later confessed to having contrived to secure his breakfast as usual.

*Second operation*, October 7, 1922. Eight days after the neck operations, the patient was etherized through an intratracheal tube. The anaesthesia was very satisfactory. An incision was made from the inner angle of the right orbit out to the malar bone, and from the starting point both across the bridge of the nose beyond the midline, and down the right side of the nose into the nostril, and dividing the upper lip in the midline. The right cheek was then reflected outward from the face bones, and the anterior wall of the right antrum removed. The antrum was full of polypoid tissue and pus. The median wall of the antrum was then removed, exposing the right nasal cavity which also was filled with the same growth, which seemed to be attached everywhere. The right nasal bone was then excised, the nose cut along its attachment to the septum, and the nose turned across the patient's left cheek after dividing the left nasal bone from the frontal by osteotome. The entire left nasal chamber was now seen, filled with the same growth. The entire bony and cartilaginous septum was then removed down to the hard palate. All the turbinates on both sides were removed, but the left maxillary sinus appeared free from disease and was not opened. The growth filled the entire naso-pharynx, and most of the oro-pharynx, and *handfuls* (literally) of sloughing friable granulation tissue were scooped up from behind the soft palate and below it. The ethmoid cells on both sides were invaded by the growth, as was the sphenoid sinus; all of these were cleared out by gouge and curette, down to bare bone. Then while air was blown into the lungs the entire surfaces from which tumor tissue had been scraped were cauterized

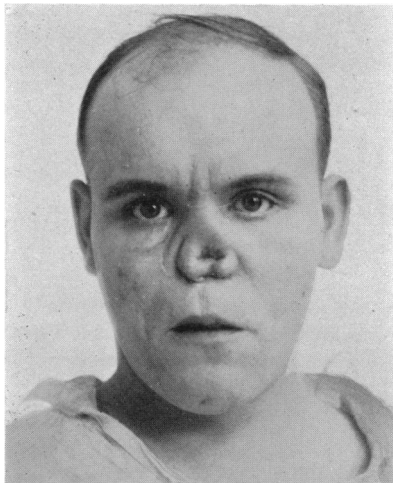


FIG. 5.—Front view of face of patient sixteen months after removal of carcinoma of nares.

with the electric cautery. There was comparatively little bleeding at any time, owing no doubt to the previous neck operations; and it was possible to leave a large dry and clean cavity. This was rather loosely packed with iodoform gauze, which emerged through the right nostril. The soft parts were closed with buried interrupted sutures of chronic catgut wherever there was subcutaneous or mucous tissue, and the skin margins with interrupted equisetene. The lines of the incisions were swabbed with Whitehead's paint. The duration of this operation was one hour. The gauze was withdrawn from the right nostril on the second day; and the patient breathed through both nostrils for the first time in more than four years. *Pathological Report* (Dr. C. Y. White): Adenocarcinoma of the nasal passages with metastasis to cervical lymph-nodes. The weight of the tissue removed from the nasal passages was 107 grammes. Eleven days after the operation he was discharged from the ward, and was referred to Doctor Biedert for local treatments, and to Doctor Bromer for röntgentherapy. The X-ray treatments (erythema doses, with 9½-inch



FIG. 6.—Lateral profile of same patient as in Fig. 5.

spark gap) were given February 7, February 21, March 4, and April 4, 1923.

During the year following the operation, the patient's nose gradually collapsed, owing to absence of the septum. A deep dimple developed near the mid-line, while the tip of the nose fell over toward the right cheek. In the side view scarcely any projection of the nose could be seen (Figs. 5 and 6).

After more than a year had elapsed without any evidence of recurrence of the disease, or of metastasis, it was determined to attempt plastic operations on the remains of the nose, in an effort to improve the man's appearance.

A dental splint was secured, through Doctor Schmidt, the resident dentist at the Episcopal Hospital. This was swaged to the patient's upper teeth, and carried two projecting arms which were bent around to fit into the nostrils. The ends of these arms were covered with "dental composition" and, after a minor plastic on the right nostril (January 16, 1924) they were inserted into both nostrils, thus restoring the nose very nearly to its original shape (Fig. 7). On February 16, 1924, the nasal splints were temporarily removed and cleansed; the splint was replaced in the left nostril, being adjusted so as to raise the tip of the nose higher, and so as to draw the columna nearly into proper position. A Thiersch graft was then

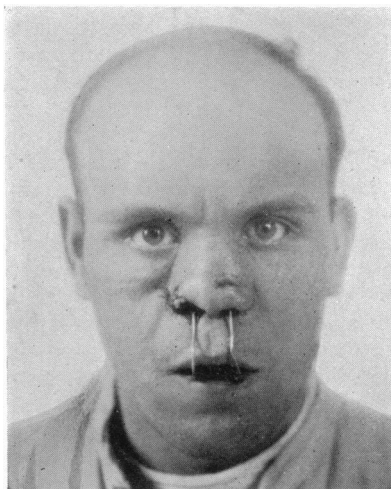


FIG. 7.—Nasal splints with dental supports.

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## ADENOCARCINOMA OF THE NASAL PASSAGES

Boykin, sutured (with its raw surface out) over the dental plug on the right arm of the splint, and the latter was then reinserted into the right nostril, thus holding the Thiersch graft against a raw surface on the interior of the nostril. On March 8, 1924, a piece of costal cartilage (3 to 4 mm. thick, 5 cm. long and 1.25 cm. wide) was transplanted into the patient's nose by undermining the skin down to the tip of the nose through a transverse incision 1 cm. long at the root of the nose. It was difficult and tedious work to create this subcutaneous channel without perforating either overlying skin or underlying mucosa, especially owing to the previous operative removal of the right nasal bone and of the entire nasal septum. The nasal plugs attached to the dental splint were reinserted at the close of the operation. Eleven days later (March 19, 1924) the skin sutures were removed, and new nasal plugs inserted, attached to the original denture. Though the operative incision had healed cleanly, a minute slough had occurred in the skin at one point along the right of the cartilage transplant, and a little fluid was discharged from this sinus for several weeks. Healing was eventually complete.

The history of this patient was reported (but not submitted for publication) at the joint meeting of the Academy of Surgery and the New York Surgical Society held in Philadelphia, March 12, 1924. No suggestions for further treatment were received from the numerous surgeons present, though several stated that it would be easier to make an entirely new nose than to continue to patch up the old one. Doctor Ashhurst said that he had realized this from the first, but that the patient preferred to keep his original nose, and was quite willing to go to any amount of trouble and temporary discomfort with this end in view.

It was next determined to attempt to insert a sliver of cartilage in the remains of the *columna*, with the idea that such a support would keep the tip of the nose from collapsing. It was thought possible, if this procedure were successful, that at a later date a piece of cartilage might possibly be implanted in the region of the right *ala nasi*, thus preventing the tip of the nose from turning down toward the patient's right cheek; but as a great part of the anterior surface of the right superior maxilla had been cut away at the original operation, it was uncertain whether any firm lateral support could be found for such a transplant.

May 10, 1924, an incision was made in the midline of the cutaneous surface of the *columna nasi* from the tip of the nose to the upper lip, where a cross-incision was made 0.5 cm. long, exposing the superior maxilla in the midline. The *columna* was cautiously split to admit the cartilage transplant. As the *columna* measured not more than 1.25 cm. from its skin to its mucous borders (owing to the previous operative removal of the entire *septum nasi*), the transplant had to be very small; but when the skin was sutured over it, it proved to be strong enough to hold the tip of the nose up in good position. The intranasal splints were then replaced.

Unfortunately, soon after the intranasal supports were removed, the tip of the nose began to sink down again, being perforated by the cartilage

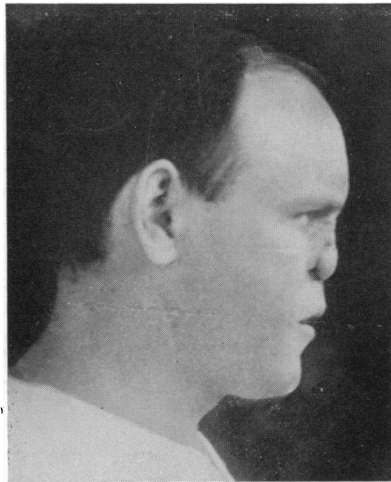


FIG. 8.—Final result of operation for plastic repair of nose.



transplant in the columna; so that the entire transplant had to be removed as a sequestrum, several weeks after its insertion. However, the deformity did not recur to the same extent as before, the longitudinal cartilage transplant maintaining the bridge of the nose very successfully.

The patient was finally discharged from the hospital in June, 1924, and had no further trouble until October, 1924, when he returned with scabs over the site of the previous slough on the bridge of his nose. When these were removed, the bare cartilage transplant was seen lying at the bottom of the sinus. Under repeated dressings, twice weekly, with balsam of Peru or ichthyol, and with cleansing by peroxide of hydrogen and stimulation with nitrate of silver, the exposed cartilage gradually became covered with granulations and was on the point of being completely epithelialized, when a new opening appeared in the operative scar at the root of the nose; and in a week or so a minute sequestrum of cartilage was removed from this sinus early in December, 1924. Within a week both sinuses in his nose healed, and remain healed at present (March, 1925), when his appearance is much as shown in Fig. 8 taken in June, 1924.

It may be added that recent rhinological examination shows no evidence of recurrence of the carcinoma. The patient visits Doctor Biedert once in two or three weeks to have his large intranasal spaces sprayed out, and continues to breathe in comfort through both nostrils.

DOCTOR ASHHURST also reported a case of carcinoma of a lingual thyroid.

#### REPAIR OF NASAL DEFECT BY ITALIAN METHOD

DR. IRVINE M. BOYKIN presented a man, twenty-eight years of age, who entered the hospital in April, 1924, on account of a deformity of his nose, the result of being struck by a piece of flying metal while at work the previous November. There had resulted a triangular defect of the right ala close to the septum, measuring 8 x 7 x 10 mm.

For the repair of this defect under local anæsthesia a flap of whole skin thickness, 6 x 2½ mm., was outlined on the anterior surface of the right arm, the longest dimension of the rectangular flap being crosswise the arm. The flap was then dissected free for its entire length, the two ends being left attached. The under surface of the flap was then epithelialized by one free graft large enough to cover the entire raw surface; interrupted silk sutures held the graft in place. One week later the flap was cut free from its inner attachment. The color was good, bleeding free, and the skin graft on the under surface had "taken." Four months later, with the forearm at right angles to the arm, a plaster case was applied from the finger tips to the shoulder, a large window being left over the flap. The forearm was then placed across the vertex of the head, thus bringing the flap near enough to the nose to be attached. Under local anæsthesia the edges of the defect in the ala were freshened. The free end of the flap was then trimmed to fit and sutured into the defect by interrupted silk sutures. Another case was now applied which incorporated the head, neck and chest. The case of the arm was then fixed to the head case. At the end of two weeks there was seemingly good union between nose and flap, so the stitches were removed and the flap cut free from the arm, leaving a redundancy attached to the nose. The plaster case was removed.

After six weeks more, without anæsthesia, the redundant portion of the flap was removed by a wedge-shaped incision flush with the margin of the ala. The skin edges were coaptated with interrupted silk sutures.

## SURGICAL EMERGENCIES OF THE ABDOMEN

It will be noticed that quite a long space of time elapsed between certain stages of this operation. This was purposely done for three reasons: First, to permit shrinkage to take place; secondly, to get the greatest amount of vascularization, and thirdly, to clear up any infection that might be present. This allowing of ample time between stages is one of the most important rules of plastic surgery.

The amount of discomfort experienced by the patient, held for so long a time in this awkward position, was surprisingly little. He complained the first day of pain over the occiput, which was immediately relieved by cutting a small window over this area. On removing the case his shoulder was stiff and painful for a short time.

A warning should be given patients of this kind against undue exposure of the nose to cold. The vessels in the graft have no vasomotor control so that when exposed to a low temperature the blood stagnates, freezes and sloughing results.

DR. ROBERT H. IVY said that there is no doubt that the forehead flap is the best source of tissue to restore total and sub-total defects of the nose. It is in the lesser defects where one ala or part of an ala, or part of the tip is missing, that one is in a quandary as to whether the end to be gained justifies subjecting the patient to these extensive and tedious operations. Regarding particularly the Italian method, it would appear that other means can be employed which are much less irksome to the patient and which give more satisfactory end results. For restoring one ala a horizontal forehead flap with pedicle at the temporal region is satisfactory, while for both alæ and tip of the nose the forehead flap with pedicle at the inner canthus of the eye is preferred. The lining for the defect can be made by inverting skin from the edge of the defect or by Thiersch grafting the under surface of the forehead flap, or (in extensive cases) by folding under the distal end of the forehead flap. In one case of restoration of the eyebrow by a pedicled flap from the scalp he had experienced a temporary shedding of the hair. After a few weeks, however, a new thick growth of hair appeared.

## SURGICAL EMERGENCIES OF THE ABDOMEN

DR. ELDRIDGE LYON ELIASON read a paper with the above title, for which see page 917.

DR. GEORGE P. MULLER remarked that notwithstanding increasing experience he found himself unable to accurately diagnose an injury within the abdominal cavity. In gunshot and stab wounds of the abdominal wall he advised operation immediately in all cases. In contusions he operated as soon as the symptoms became suggestive. If the symptoms point toward a kidney lesion, he only operates in the presence of a hæmatoma, evidence of severe bleeding, or persistent bleeding through the ureter.

DR. LEON HERMAN said that several years ago a railroad brakeman was admitted to the surgical service of Dr. George Ross in the Methodist Hospital with symptoms of severe visceral injury. He had been crushed between two freight cars and died of shock almost immediately after admission. It was found on post-mortem examination that the jejunum was ruptured in two

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places and that he had a horse-shoe kidney, the isthmus of which was torn completely across. In reporting this case he remarked that with the exception of one described by Henry Morris, this was the only instance of the kind he knew of having been recorded. Dr. A. J. Scholl, of Los Angeles, and Dr. Daniel Eisendrath, of Chicago, have since each written to him calling attention to the fact that Hinterstoisser (*Wien. klin. Woch.*, 1920, No. 33, pp. 942-943), has reported a third case. In this instance, a wagon wheel passed over the abdomen; the patient died of hemorrhage. In Morris' case the injury resulted from the kick of a horse in the abdomen. Doctor Scholl also called attention to a fourth case reported by Biggs (*Med. Record*, 1892, vol. vii, p. 518) in which a truck wheel passed over the abdomen, fracturing the spine and lacerating the isthmus of a horse-shoe kidney.