for seven years, the left lower cartilage being destroyed. Treated by scraping and cauterisation, a recurrence of the disease having taken place, treatment with tuberculin was begun on September 2nd. September 28th. It was noticed that the nodules were becoming depressed. October 6th. Nodules less defined and scaly. December 10th. Many of the nodules have entirely disappeared, while others which were beginning to ulcerate have partially or completely healed. January 6th. The patient was shown at the Medical Institution. The injections were continued until the end of March in spite of which fresh nodules made their appearance and healed ulcerations broke down.

CASE III. *Lupus of Face*.—E. S., married woman, aged 39, has had eleven children, three of whom died in infancy from convulsions. At the age of 24 she suffered from suppurating glands in the neck, and from which the disease originated. Her mother, a brother, and a maternal aunt died of phthisis. The disease occupies the right half of the face, the ear of the same side, the nose, the lobe of which is ulcerating. The upper margin follows a line more or less ulcerating drawn from the top of the ear across the temple and the lower eyelid to the root of the nose. The lower margin, dry and scaly, sweeps downwards and forwards from the ear, beneath the inferior maxilla to the larynx, and upwards and backwards to the angle of the left jaw, enclosing the whole of the chin and mouth. The included area consists of numerous nodules embedded in the more or less atrophic skin of the cheek, while the skin of the chin is much infiltrated and scaly. September 15th. The treatment was commenced. September 25th. The face looked red and glazed. September 27th. The nose is healing and the face is generally improving. October 5th. Redness and infiltration is less; nose is nearly well. October 15th. Face very much improved. October 18th. Face red and hot; patient complains of backache, nausea, headache, trembling, and very nervous. October 21st. Face improving. October 30th. Face flushed, hot, and burning; feels very poorly in herself. November 30th. Continued to improve until this date, when it was observed that the already healed ulceration of the nose was breaking down again. December 7th. Patient returned to her home. January 6th. Shown at the Medical Institution. January 17th. It was noticed that the nose had again healed, but that a slight recrudescence of the disease had occurred on the cheek. January 25th. A fresh eruption of nodules has appeared on the left side of the nose, and the cheeks are studded with small-sized pustules. The upper margin of the disease and the lobe of the nose are now crusted with dried exudation. March 8th. Fresh eruption of nodules; breaking down of healed ulcerations; injections discontinued.

CASE IV. *Lupus of Nose and Face*.—C. N., a girl, aged 15. This patient had been under treatment with the thyroid extract for eighteen months previously, but latterly the disease had seemed to stand still. It was one of those cases which admitted of no operative interference. The disease had begun in the nose nine years ago, and gradually involved the whole of the face and eyebrows, destroying the nose. The cheeks and chin were greatly infiltrated. The lips had been destroyed by ulceration, and in consequence the oral orifice was gradually closing; this was enlarged with scissors from time to time to enable the patient to take her food. Saliva kept continually running over her chin and interfering with repair. September 5th, first injection. October 5th, the epidermis is rapidly healing round the mouth and over the base of the nose. Large granulations on the lower lip are much diminished in size, and the mouth is rapidly closing. October 19th. Mouth completely healed. December 17th. The oral orifice was enlarged by snipping through the angles with a strong pair of scissors, and an attempt was made to bring the skin and mucous membrane together with sutures, but owing to the infiltrated condition of the tissues it was found impossible, and considerable sloughing followed. January 6th, shown at the Medical Institution, when it was noticed that considerable diminution in the width of the lower half of the face had taken place as compared with a photograph taken before the treatment was begun. January 17th. Patient became an out-patient. From this date until the end of March the girl attended weekly for injection, during which time healed surfaces again broke down, and numerous lupus nodules erupted.

REMARKS.

It will be observed that these notes refer more particularly to the local effects of T.R. tuberculin, but it must not be assumed that no constitutional symptoms were produced by the injections. All the patients suffered from *malaise*, *anorexia*, pains in the back, and weakness or trembling of the legs.

The local reactions differed from those produced by the old tuberculin in being milder and confined strictly within the diseased limits. No abscess formation occurred as the result of the injections.

During the earlier treatment improvement was most marked, and excited hopes that substantial benefit would follow; then came a period of no advance, and lastly a stage of breaking down of healed ulcerations and a recrudescence of the disease.

A CASE OF MALIGNANT POLYPUS OF THE NOSE, WITH REMARKS.

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An important, probably the most important, point in the matter of malignant polypus of the nose is that of early diagnosis. This may be said to hold good of all organs and

regions, for it may be assumed as a general rule that the success of operative treatment of malignant disease, wherever situated, is in direct ratio to the earliness of the stage at which it is applied. In the case of the nasal cavities this is particularly true; and it is chiefly with the view of assisting in the early diagnosis, and of eliminating certain fallacies which might mislead the observer, that the present communication is made.

The text of this paper is afforded by the following case:

A lady, aged about 60 years, with no hereditary tendency to disease, and who had hitherto been very healthy, came under my notice on September 23rd, 1897. She was reported by her medical attendant, who was a near relative, and who accompanied her, to have polypi in both nostrils. The initial nasal symptom, and that which had ultimately led to a casual inspection of her nares, was hæmorrhage from the left nostril of a very profuse nature. The first flow of blood had occurred about three months previously, and between that date and the period of my seeing her, three or four severe recurrences had taken place. Polypi had been observed almost protruding from the left nostril about a week before coming to me. Hæmorrhage was the only thing of which she complained, and I noted that the sense of smell was good.

I found many polypi in both nostrils. In the right they presented the appearances and characters of simple growths. In the left they were numerous, and completely filled up the nasal cavity; their colour was mostly dark brown, but at places slaty grey and resembling simple polypi, and on gentle probing they bled freely. The individual polypi could be differentiated, but distinct pedicles could not be made out. No pain was present, and there was no glandular enlargement.

An attempt to operate by the cold snare in the left nostril was followed by severe hæmorrhage. On several subsequent occasions the electric snare was used, and even this induced considerable bleeding. A passage was, however, cleared into the naso-pharynx; but rapid recurrence of the growths soon led to complete reblocking, and, as further and more radical measures were declined by the patient's relatives, subsequent treatment was limited to removing so much of the disease as appeared outside the nose. The growths by this time (December, 1897) had been transformed into a dense, black, sloughy mass, which bled freely and frequently, and which gradually extended into the right nostril, into the left antrum, causing marked bulging of the cheek and closing the eye, and eventually into the mouth. There was a continuous fetid, sanguineo-purulent discharge, and slight variable pyrexia was present during the last two months of life. Pain was absent during the whole course of the disease. Death occurred on February 12th, 1898.

The results of microscopical examination of portions of the growth removed merit a detailed notice. On the first and second occasions when examinations were made the appearances indicated simple mucous polypus of the nose. On the third occasion a different state of matters was revealed, as indicated by the following report:

The tumour consisted of a large irregular polypoid mass from $1\frac{1}{2}$ to $1\frac{3}{4}$ in. long, 1 in. broad, and $\frac{1}{2}$ in. thick, from which two or three pieces had been detached. It was of comparatively soft consistence, especially in places, and distinctly brittle. On section it was of a pale to pink colour, mixed with patches of red, not unlike a mixed thrombus. The whole tumour was cut into suitable pieces fixed, and stained with hæmatoxylin, rubrin, and orange. It showed microscopically a pure sarcomatous tissue in its most typical parts. The cells were round and fairly large, about the size of medium round cells, though a

Sarcomatous Polypus of Nose. Photomicrograph $\times 220$.

few were larger, being more than twice the size of lymphocytes. Whilst most of the cells were round, or nearly so, some, especially the larger ones, were oval, or slightly irregular in shape. In no place were they densely packed together, and in many parts of the tumour they were very scanty indeed. There was an ill-defined granular matrix, and the blood vessels were numerous, relatively large, and very rudimentary. The photomicrograph shows one of these vessels surrounded by sarcomatous tissue. In no part of the tumour were the cells more numerous than is here represented, and in most parts they were present in much smaller numbers. Tissue of this typical sarcomatous type formed a comparatively small part of the tumour as a whole. A great part was formed by a loose sarcomatous tissue infiltrated with blood and blood clot. In many places it was mainly composed of red blood corpuscles with little or no fibrin, but many young organising blood vessels shooting through it, and only a scanty sprinkling here and there of sarcomatous cells. Other parts, forming a considerable bulk of the tumour, were composed of inflammatory tissue and thrombi, the inflammatory tissue being of a comparatively recent date, and in many places, at any rate, of a septic nature. Much of the inflammatory tissue was rich in fibrin, and the disposition of many leucocytes within its meshes presented in places a superficial resemblance to a myxomatous tissue. Careful search, however, failed to find a single myxomatous cell throughout the tumour.

The growth was, therefore, a round-celled sarcoma of great vascularity and rapid growth, in which frequent and repeated hæmorrhages had occurred, and in and around which low forms of septic inflammatory changes had arisen.

In this case we have the interesting phenomenon of the occurrence of benign polypi in one nostril and malignant in the other, and not only so, but with benignity and malignancy co-mingled in one and the same nostril. The results of the microscopical examinations, which were made at intervals of about a month, afford reasons for the opinion that the polypi in the left nostril were originally benign, and that the sarcomatous invasion or degeneration was a comparatively recent occurrence, and probably commenced in the deeper part at or about the time of the first hæmorrhage. For undoubtedly polypi must have been present for many months at least before that occurrence.

Cases have already been recorded in which a sarcomatous has been preceded by a benign growth, as in that by Onodi,¹ which differed from the present one in that the transformation occurred only after ablation of the polypi. Sendziak² met with a case of malignant sarcoma with benign polypus of the nose, the malignant being situated low down on the septum, and the benign in the middle meatus. Haring³ mentions the case of a woman, aged 26, in whom four months after removal of a polypus apparently of ordinarily benign character, the nasal cavity was blocked by a round-celled fibro-sarcomatous growth. Not only simple and sarcomatous growths coexist, but more than one variety of malignancy may be present. Plicque⁴ quotes Ricard regarding two cases where, along with ordinary mucoid polypi, not only sarcoma but also epithelioma was present, and the same writer mentions that similar cases have been recorded by Schaeffer, Hopmann, Terrier, and Voltolini.

Apart from the etiology of malignant disease generally, the point which seems worthy of some consideration is the question of (surgical) traumatism in determining or inducing malignancy in ordinary mucous polypi. The view is held by some, and certain of the cases now quoted would appear to bear this out, that instrumental or operative interference and irritation are necessary to induce malignant transformation in an ordinary simple polypus. I do not hold that opinion, for, as already stated, in the case now submitted, no operative treatment had been practised before I saw the patient, and at the first interview I expressed my opinion to the medical attendant that malignant disease was present.

In deciding upon the precise nature of these cases, we have seen, in the earlier stages of the disease at least, that the microscope cannot be trusted to reveal the full and true nature of the lesion. There seem to be two features of value in the diagnosis of malignant polypus of the nose in its earlier stage—namely, hæmorrhage, and the locality of the growth. The former, which may be spontaneous or easily provoked, appears to be far and away the most important symptom; it is usually severe and recurrent, and, as I have seen in other cases, generally occurs for the first time at an early period, but may be somewhat postponed, as in the present instance.

In estimating the diagnostic value of this symptom, it ought not to be forgotten that women, more rarely men, sometimes suffer from a benign form of bleeding growth of the septum, usually in the left nostril, and known as "bleeding polypus of the nose." This is of the nature of a lymphangioma, is easily removed, and does not usually recur; but with this exception we may safely assume that, given an elderly individual with

a nasal polypus, or a sessile polypoidal growth, which bleeds frequently and profusely, the probability is that it is malignant, more especially if the growth can be seen attached to the septum, for this appears to be the malignant area of the nose. One writer, indeed, goes so far as to affirm that "a polypus inserted on the septum must always be regarded as of a malignant character" (Plicque).⁵ In the later stages of the disease it may be impossible to say whence the growths have sprung, or whether they are or are not pedicled, and hence any diagnostic value which may be attached to these features is lost. On the whole, I am inclined to think hæmorrhage the most reliable test we have, and I would say that sessile polypoidal septal growths, or blood-stained or hæmorrhagic spots or areas on the surfaces of what appear to be ordinary mucous polypi, along with frequent and profuse bleedings, are almost conclusive proof of malignancy.

Whilst sarcoma of the nose is usually met with in elderly individuals, it is not exclusively so. I have not seen it occur under 40, but Bliss⁶ has recorded two cases of sarcoma of the nasal chambers in children, one aged 4 and the other 9 years. Nichols⁷ mention its occurrence in a boy (age not stated), and in another patient aged 17 years. A few similar cases have been recorded by other writers.

The prognosis as regards the results of operative treatment depends upon the degree of malignancy and the stage and locality of the disease. Carcinoma and epithelioma, which are fortunately of rare occurrence in the nose, are highly unfavourable. Fibro-sarcomata are much more favourable than pure sarcomata, and several cases have been recorded in which the former have not recurred after operation. Pröbsting and Cramer⁸ have even noted spontaneous shrinkage and healing of a naso-pharyngeal sarcoma, and Onodi is of opinion that the internal administration of arsenic tends to cause their disappearance. Long periods of immunity after operation have also been noticed by other observers in cases of fibro-sarcoma of the nose and naso-pharynx. Early cases of sarcoma which present as small sessile polypoidal growths on the septum are more favourable than those less frequent ones in which the ethmoid is primarily affected; and if the case be seen and the disease detected at a sufficiently early period, an intranasal operation by means of the curette and electro-cautery may suffice to permanently cure the patient. I have seen one such result in the case of a gentleman, aged 70, which I did not diagnose at the time, but which, in the light of an extended experience, I now believe to have been sarcoma of the septum.

I have to express my indebtedness to my friend, Dr. R. F. C. Leith, for his careful microscopical examinations of this and of other cases of malignant polypi of the nose which have been under my care.

REFERENCES.

- ¹ *Internat. Centralt. für Laryngologie*, vol. ix, p. 325. ² *Journal of Laryngology*, vol. x, p. 103. ³ *BRITISH MEDICAL JOURNAL*, February 20th, 1896. ⁴ *Journal of Laryngology*, vol. iv, p. 195. ⁵ *Annales des Mal. du Larynx*, March, 1890. ⁶ *Internat. Centralt. für Laryngologie*, vol. xi, p. 80. ⁷ *Trans. of the American Laryng. Assn.*, May, 1897. ⁸ *Internat. Centralt. für Laryngologie*, vol. xiii, p. 45.

CASE OF CEPHALIC TETANUS TREATED WITH ANTITETANIC SERUM: RECOVERY.

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THE following case of tetanus treated with antitoxin, and followed by recovery, seems worthy of record. It was undoubtedly subacute, as thirteen days elapsed between the date of the injury and the onset of the earliest symptoms; but the comparatively favourable prognosis suggested thereby was discounted by the fact recorded by Gowers¹ that "all the cases (of cephalic tetanus) met with over 25 have been fatal." Moreover, he adds, "In all cases that have recovered, the tetanic spasm and facial palsy have very slowly passed away, the symptoms continuing altogether several weeks." In the following case the spasms were probably mitigated in intensity and lessened in number by the chloral and bromide given simultaneously; but in view of the rapid improvement commenced after the second large injection on the fifth day of the disease, and the complete disappearance of all symptoms on the twenty-first day, it seems only right to attribute