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ORIGINAL COMMUNICATIONS.

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MALIGNANT DISEASE OF THE NOSE.*

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Occurring in the nose, a cavity so labyrinthine in structure, and even with present methods of examination so hidden from view in many of its recesses, malignant growth is frequently given an opportunity for considerable development and extension before the symptoms may be sufficient to call attention to the condition; and although the cases I report may offer nothing new, either in diagnosis, prognosis or treatment, they may, I hope, be of some service when added to many other recorded cases.

Whenever a malignant growth develops, the sooner it is removed the greater are the chances of eradicating it, and when there is suspicion of any growth being malignant the pathologist should be immediately called to our aid. In a general way, any vascular, more or less granular growth occurring in any locality within the nose should receive our immediate attention.

The symptoms associated with the early development of malignant nasal growth are found associated with many other less serious conditions. Hemorrhage may be an early symptom. General symptoms of rhinitis, as stuffiness, excessive secretion, and feeling of distention may be the only symptoms. Pain is not an early symptom, but was present in one of my cases.

When we have made a positive diagnosis of malignant growth in this region, it is often not an easy matter to decide whether or not to interfere, how extensively to sacrifice the surrounding tissue when we decide to operate, and how to alleviate, so far as possible, the suffering while the patient has to survive. Knowing that one has a fatal disease is none too pleasant, but when it is known that

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that disease may produce intense pain, affect sight and smell, and inflict an almost unbearable odor, it is a condition which demands any alleviation within our power to give. If only breathing space can be for a time re-established, and pain and pressure reduced, it may be right to operate, and I find that most people prefer to submit to an operation when that is the only improvement which can be promised.

I think we all, who have to deal with malignant growths in this region, as well as those who have to meet similar conditions in other almost inoperable places, long for some form of treatment, serum, opsonic, or other, which will enable us to meet and conquer this terrible condition; but until then we must do all possible within our power to give relief.

As the locality of the disease may not only modify the treatment, operative or other, but also very materially affect the prognosis, I shall, as a matter of convenience, place the cases I am reporting in three classes. In the first class, we will consider those in which the growth is attached to the septum; in the second class, those in which the disease is restricted to the turbinal bodies; and in the third class, those cases which apparently have their origin in the accessory cavities connected with the nasal chambers. The pathological reports again classify our cases, but as I have so few to report I shall not try to thus classify them, except to give pathological records.

Of the eleven cases upon which I have operated—

Two were attached to septum.

Three were attached to middle turbinate.

One was attached to extreme anterior end of lower turbinate.

Three had their origin in Highmore's antrum, and two were so extensive when examined that I had no idea of their origin.

The pathologist reported both septal cases as carcinoma, one of the turbinal cases as epithelioma, and the other two as sarcoma, the lower turbinal case as epithelioma, the antral cases, one as carcinoma, another as enchondroma, and the third as carcinoma with areas resembling odontoma, the other two cases as adenoma and sarcoma.

The youngest patient was 17 years, and the eldest 70 years of age. The average age was 45½ years. Five were males and six were females. Three had lost near relatives with malignant growth. The others gave no such history. There was nothing about employment or habits which gave any suggestion as to etiology.

Of these cases two only are now living, and one of these, Mr. J. McN., came to me 12 years ago. He was a well developed and healthy appearing man, 46 years of age, a salesman by occupation, and with a family and personal history of almost perfect health. He consulted me on account of nasal hemorrhage which was and had been his only symptom of disease. The cause of his hemorrhage was found to be a tumor about half an inch in diameter attached to the right side of the septum, at about the junction of the cartilage and the vomer, perhaps a little more over the vomer than the cartilage. The attachment was by a pedicel about one-fourth inch in diameter. The macroscopic appearance was that of an irregular nodular, bluish red colored polyp, which bled profusely after being moved by a probe.

I removed the mass with cold snare and cauterized the base very thoroughly with electric cautery. As the pathological report was carcinoma I kept close watch of patient and at the end of four weeks there were signs of similar tissue springing from the original site. I advised removing all of the septum at this area, including about one-third inch of apparently healthy tissue. This was consented to by the patient, and under cocaine with cartilage knife and scissors I removed the cartilage, bone and mucous membrane covering in one piece. This produced a very large perforation but it was so far back that there was sufficient cartilage anteriorly to maintain the proper contour of the nose. The pathological report upon the excised portion of septum was that the tissue at circumference was normal but at site of trouble there were areas of carcinomatous tissue, and also simple granulation tissue. This man has remained in perfect health since and this may give some hope in cases of malignant growth occurring in the nose, if so situated and of such extent that they can be removed entirely.

A case which belongs to this class, so far as symptoms, diagnosis, and treatment are concerned, was that of Mrs. T., 47 years of age. She was a widow with moderate means and though well nourished had a rather careworn appearance. She had been troubled with epistaxis for about six months. She was referred to me Nov. 27, 1897, by her family physician, Dr. Geo. E. Thompson, for an attack much more severe and of several hours' duration. The hemorrhage was from the right nostril and after stopping the flow of blood with a cotton plug I found that it was coming from a tumor about the size of a pea, rather nodular and vas-

cular, attached to the septum anteriorly at about the location so often found irritated and abraded by picking the nose.

I removed the growth with cutting forceps and cauterized base with electric cautery. The excised portion was reported by the pathologist to be carcinoma. I requested patient to visit me for inspection but she did not come again until 5 weeks later when there was again hemorrhage. At this time at the posterior border of the operative area was a bluish red tumor about the size of an apple seed. I removed the septum for about a quarter of an inch about the diseased area, removing slightly more cartilage than perichondrium and mucous membrane, so that these would cover cartilaginous border of perforation made. There was comparatively rapid healing and no return of the growth at the end of 14 months, the last time I saw her. At about this time she removed to Maine where she died 18 months later of what was diagnosed as carcinoma of the uterus. There were no symptoms of any nasal disease during this period.

The next case is in a class much more formidable, due to location of origin, and extent of involvement. Mr. C. was referred to me by his family physician, Dr. Frame of Rockland, Mass., for a bleeding polyp of the right side of nose. He was a well developed and nourished man of 37 years of age, and his only symptoms were stuffing and bleeding of the right side of the nose, and some pain neuralgic in character over right side of head and at occiput. Nasal inspection showed a livid colored growth filling nares from about one-half inch inside anteriorly to about one-third inch from posterior choana. The least probing was followed by profuse hemorrhage. I removed piece of anterior end about size of hazel-nut for examination and the report from pathologist was that we had a spindle-celled sarcoma. Hoping that perhaps the attachment might be to middle turbinate and nowhere else, I advised immediate operation. The patient dreaded to undergo the same and deferred operation for about three weeks, when the pain became so severe that he sought any relief. At this time the growth had appeared at anterior nares, and there was distinct exophthalmos of the right eye. Under ether I removed the greater mass of growth with middle turbinate, but I found that it had filled ethmoid, and had pushed through cribriform plate. The case was of course hopeless, and I did not try to do more. Fortunately there was only one more week of suffering. This case illustrates

how rapidly these growths can advance and how soon they may get beyond relief.

Case second in this class is Mr. L., who was referred to me by Dr. Tirrell of So. Weymouth, Dec. 7, 1897. Mr. L. was 62 years of age, was a wiry, rather small and somewhat anaemic man. He had always led an out-of-door life. His father died of pulmonary tuberculosis, his mother of cancer. There were then three living brothers, and one brother and one sister dead.

He had been in perfect health until about three years before consultation. The first symptoms were those of a cold in the head.

This symptom in various intensity had remained and the last weeks there had been pain. At first there was a pressure as of something pushing on nose, but lately considerable pain in nose and right eye. The right side of nose was pushed outward and a vascular nodular tumor apparently attached to right middle turbinated area filled the whole right nasal chamber. This bled very easily and there was considerable hemorrhage following a careful use of the probe.

Five days later under ether I removed with a hooked knife the middle turbinate with the attached tumor which was fully the size of a pigeon's egg. The inner wall of antrum had been pushed outward as had also the orbital plate. A specimen of this growth was examined at the pathological department of the Boston City Hospital, and was found to be carcinoma. This man has had no recurrence and Dr. Tirrell reports him as a healthy man to-day, 72 years of age.

The third case in this class was a Hebrew girl 17 years of age. She first came to me complaining of some pain in the right side of the head and stopping of the right side of the nose. She was at this time fairly well nourished and developed but she said she had lost considerable weight.

Under cocaine, anterior inspection of the nose showed a polyp-like but vascular mass, apparently in the naso-pharynx. This was shown by post-nasal mirror to practically fill the right side of the naso-pharynx.

The following day I removed the tumor with cold snare and cauterized the base with electric cautery. The growth was rather nodular and vascular and about three-fourths of an inch in long diameter and one-half inch in other. The pathological report was that we had a myxofibroma, and not a sarcoma as we had thought.

In three weeks there was another growth in all appearance like the first. I removed this together with the posterior two-thirds of the turbinal body.

The pathological examination of this specimen showed myxomatous and granulation tissue.

About four weeks later patient consulted me at my office as I was not then on duty at the City Hospital. There was now exophthalmos and complete blocking of the right side of the nose and naso-pharynx. I referred her back to the hospital and Dr. Leland removed a specimen for examination. This time it was reported that she had a rapidly growing spindle-cell sarcoma. The patient was admitted to hospital and Dr. Munro performed the Cheever operation, followed by death the next day. An autopsy could not be obtained, but the operation showed that the process had extended into antrum, ethmoid, sphenoid and orbit.

John W., a robust man of 51, with an excellent family history and a perfect personal history except for children's diseases, consulted me February 11, 1903, for a painful and obstructive growth in anterior portion of nose. This he says to his knowledge he had had for about a year, but pain had been present about three weeks.

Examination showed a greyish red irregularly shaped tumor about 1-3x1-8 inches attached to anterior end of the right lower turbinate. The surface towards the septum was abraded and showed signs of ulceration. This was classified by the pathological department at the City Hospital as carcinoma. Under cocaine I removed the growth with considerable of the surrounding tissue. I adjusted and sutured edges of wound but on second day they pulled apart. The wound, however, was entirely healed at the end of the month. About three months after operation the patient began to have pain, and what he described as a sensation of pressure in the head. He slept poorly and lost weight rapidly. His symptoms increased and he finally died at the end of four months, just seven months after operation. Dr. Mahon, who saw patient the last few weeks of his life, reported that there was finally paralysis of whole left of the body and almost total blindness before death. Relatives refused autopsy so we can only reason by symptoms that there was probably extension into cranial cavity through the lymphatic or venous channels.

On Oct. 3, 1903, Mr. J. C. M. consulted me for a severe neuralgic pain in right cheek and eye. This had existed for five

weeks but was increasing in severity and frequency of attacks. For the few days previous to examination, the pain had been practically constant. Mr. M. was 53 years of age, weighed some 220 pounds and had the appearance of one who had been suffering. His pulse was 108 and his temperature was normal. His history, family and personal, was excellent. The right eye was apparently slightly prominent. The conjunctiva was injected. The vision was normal. On the right side of nose the mucous membrane was much inflamed, and there was considerable pus in the middle fossa. The right antrum was much more opaque than the left. After passing trochar I tried to cleanse antral cavity, but very little solution came from the ostium. A probe passed through trochar gave the sense of entering some pulpy material. Radical operation was advised but patient declared he would die before he would take ether. I saw him again two weeks later and at this time there was no doubt about the exophthalmos. There was a brownish red polyp in the middle fossa. A small piece of polyp was removed for examination and found to be carcinoma. The condition became rapidly worse and at end of four weeks there was total blindness which lasted nine days, when there was sudden death. There was no examination of the eyes after my second examination and yet I believe the carcinoma had extended into orbit and probably into cranial cavity.

On Oct. 11, 1906, Miss L. H. consulted me on account of nasal pressure and inability to breathe through nose. She was 30 years of age and poorly nourished, of a sallow complexion and a constant mouth breather. The first important fact in her past history was stuffing and tinnitus in left ear two years before. There had been plugging of nose about the same time. This had grown worse and about a year before consulting me she had been operated upon under ether at some hospital in New York. She could not tell the name of hospital or the surgeon who operated upon her.

Examination showed the right side of the nose to be filled with pus and polypoid tissue. The left side contained much thick foul pus and a very vascular kidney colored polypoid growth. A similar growth filled the naso-pharynx, pushing the left side of the soft palate forward. There was a small cicatrix in the left canine fossa.

I advised the patient to go to the hospital where I could operate upon her immediately, but this she did not do. On November 22, over five weeks later, she again came to my office. There

was now left exophthalmos and considerable pain, and she was willing to undergo an operation. The disease seemed so extensive I did not give a very good prognosis, and she did not appear at St. Elizabeth's Hospital until December 7th. I now found her to be suffering much pain. She had lost much weight, the pulse was weak and there was slight elevation of temperature. She was now determined to have something done. Under ether I made incision under the left lip from anterior border of canine fossa as far back as the second molar, the cheek was dissected to above the zygoma and to the infra-orbital foramen and what was left of the necrotic anterior wall of the antrum was removed. Through this opening was removed the growth which filled the antrum, the ethmoid, and the sphenoid cells, the posterior portion of left orbit as well as the whole left nasal and nasopharyngeal cavities. The patient never thoroughly recovered from the ether, and died the night following the operation.

Dr. Leary who examined the growth reported it to be an endothelioma.

The third in this class was Rev. Dr. P., 70 years of age. He was referred to me by Dr. Darling for nasal obstruction and discharge from the left side of the nose. I first examined him March 18, 1907. He was a well preserved man for one of his years and except for prostatic trouble had been in good general health. Examination showed a very vascular pulpy growth about size of a cherry and apparently attached between the middle and the lower turbinate at usual ostium of the antrum. Trans-illumination showed much obstruction to light on the left side.

I advised immediate operation, fearing malignancy and hoping by performing a radical operation upon the antrum to perhaps eradicate the disease. As the patient had much church work which he had promised to perform, he put off operation until June 6th, when the tumor nearly filled nose and naso-pharynx. I was able by removing lateral wall of antrum to clear out that cavity, and then to remove through naso-pharynx the detached growth, which was the size of a goose egg. Dr. Mallory reported tumor to be carcinoma with areas of odontoma. So far as possible I removed all infected tissue and after the operation the patient quickly rallied and had no symptoms until the last of August, when there was again a very rapid development of the growth. As there was much distress from this second growth and as the patient very

much wished a few more weeks of life to complete certain work he desired any possible relief, and Sept. 5, he was again operated upon. There were after last operation several weeks of comfort. In November there were signs of a return of the disease and death came December 16, 1907.

Mrs. L. G., a poorly nourished, anaemic woman, 34 years of age, consulted me Jan. 8, 1901. Her father was living, her mother died of hemorrhage from the uterus. Her first symptoms began eight years before when she had trouble about breathing through right side of nose; there was also considerable nasal secretion. Her family physician had removed considerable flesh from the right side of the nose which he said was a polyp. Several times there had been operations upon the nose. These gave temporary relief. The last operation was about four months before coming to me. At this time there had been profuse hemorrhage and very little was accomplished. There had been much loss of weight and strength during the previous year.

The right side of the nose was filled with a brownish bluish red mass which had extended into the naso-pharynx sufficiently to block the left side.

Under cocaine I removed much of the mass from the right side of the nose and the entire mass from the naso-pharynx. The growth had entered or was in the antrum, filled the attic, was attached to lower turbinate and it was impossible to learn its origin. Pathologically it was round-cell sarcoma.

As patient lived in a distant village I did not see her again but a sister wrote me the following: "My sister was given much relief by your operation for about eleven or twelve weeks when there was a recurrence of her old symptoms. She grew quite rapidly worse and died Nov. 19, 1901. After she found she had cancer she said she would try to do no more."

This case was likely one of simple polyps at first and was operated upon several times for that condition. There seems no way of judging whether there was any connection between these and the first tumor which was sarcomatous.

Mrs. F. M. G., a well nourished and healthy appearing woman, 53 years of age, consulted me March 7, 1904. Her mother died of cancer of breast at 61 years of age. One sister died of uterine hemorrhage at about 46 years of age. Two brothers and three sisters were living and in good health.

Mrs. G. was the mother of three healthy children and had always been in excellent health herself until about one year before consulting me. Her first symptoms were those of simple rhinitis. These gradually increased until at end of five months she consulted a physician in Philadelphia. He told her she had a bad ozaena and gave some oily spray which she used for about three months. The symptoms gradually increased, there was inability to breathe through the nose most of the time, and at times a severe heavy pain over the eyes and at occiput.

For ten days there had been more or less nasal hemorrhage.

Examination showed a liver colored nodular growth filling both nares and pressing soft palate forward. The lower edge was visible in pharynx below palate.

I removed a section for pathological examination and Dr. Mallory reported it to be adenoma. There was such an extension of disease that prognosis was exceedingly poor, but patient wished to be relieved of nasal obstruction if but for a short time.

Under ether the nasal cavities and the accessory cells were cleared so far as possible but the growth had filled every space.

For six weeks patient was very comfortable when the right side of the nose became plugged. There were a few hemorrhages, but not of severe type until July 1, when there was a severe hemorrhage from mouth, and death followed before surgical aid arrived.

The study of these few cases shows how rapidly these nasal growths, whether carcinoma, endothelioma, or sarcoma, may progress, how they push into and fill the labyrinth of sponge-like cells of the ethmoid and the sphenoid, how liable they are to break down the base and enter the floor of the cranial cavity, and how extensive they are liable to be when first the patient consults a physician.

In preparing these reports I have been surprised to find how frequently growths in the nose which I feared might be malignant from the general appearance were reported to be benign by the pathologist.

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