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## REMOVAL OF NASO-PHARYNGEAL POLYPUS BY TEMPORARY DEPRESSION OF BOTH UPPER JAWS.

BY L. McLANE TIFFANY, M. D.,

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Charles Sorden, mulatto, aged 48 years, spare, rather undersized, married; entered University Hospital, February 15, 1878, during my service. Previous history, as obtained from himself and wife, showed that for the past six years he has had trouble with his throat, while for the past five years he has been aware of the existence of a tumor "behind his mouth." Attention was first called to his throat by spitting of blood, then by profuse epistaxis at short intervals; later, ear-ache, very severe, was noticed, followed by greatly impaired hearing in right ear (1874). Right nostril closed completely in 1875.

In April, 1877, he entered University Hospital, service Dr. J. J. Chisolm, who found a polypus growing from base of skull, occluding right nostril, etc. At this time the left nostril was free. Dr. Chisolm cast a wire around the base of the growth, and tightening the loop, removed the polyp in three days without hæmorrhage. Hearing returned on right side, and he went home apparently well. In four months epistaxis recurred, renewal of the tumor was apparent, hearing on right side became impaired, right nostril became occluded, and in December, 1877, air could be no longer forced through the left one. Seen by me Feb. 16th; no deformity of face. The greater part of his posterior nares and pharynx was filled by a dark, tolerably firm growth, which rested on the soft palate, pressing it downwards and forwards almost upon the dorsum of the tongue; beyond and behind the tongue, for an inch, the growth extended uncovered by soft palate. The

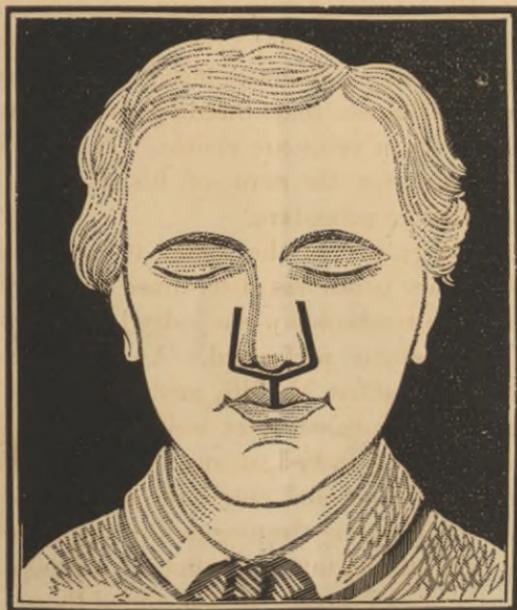


tumor rested against the bodies of the cervical vertebræ, but on either side and in front, by pulling the soft palate strongly forward, a finger could be passed around the mass. The attachment was made out to the internal plate of the right pterygoid process, its internal and posterior aspect, and to the adjacent basilar process of the sphenoid. The attachment was by a pedicle. The patient had been unable to sleep in the recumbent position for two or three weeks before admission to the hospital, owing to difficulty in breathing, and had passed his nights in a chair. Speech and deglutition greatly interfered with, fluids and very soft food only being swallowed. No appetite, great pain in throat, probably from pressure. Patient expectorates bloody mucus very frequently. Digital examination causes some bleeding from the tumor, on the surface of which certain veins are visible. The patient desires an operation performed for the cure of his affection, if possible, rather than a palliative procedure.

Owing to the large size of the tumor, temporary depression of both upper maxillary bones was determined on, and for the same reason a provisional tracheotomy was judged to be proper.

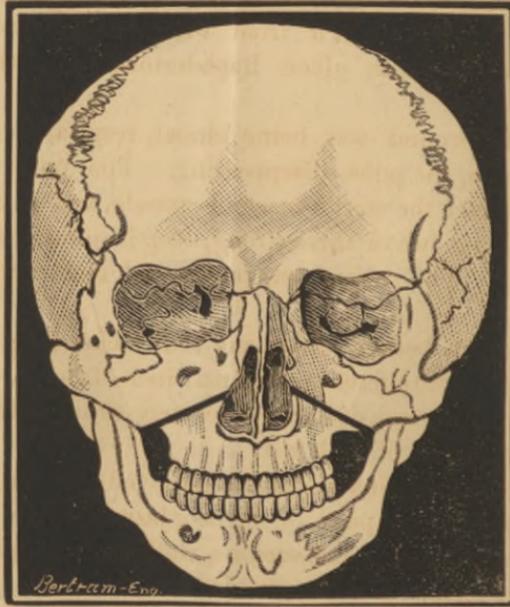
Feb. 19th, tracheotomy performed. An unexpected complication nearly cost the patient his life, arising from the size of the tumor. The patient inhaled ether well, but when the stage of muscular relaxation was reached, at once the tumor, which rested on the soft palate, sank down and closed the opening of the trachea like a ball valve. Drawing the tongue forward was of course useless, so fingers were thrust into the mouth to raise the tumor, and respiration was re-established. It was found, however, that the pressure of the fingers necessary to raise the tumor caused profuse bleeding from its surface, which rapidly passed into the now open glottis, and asphyxia was again imminent, indeed after a gasp or two respiration ceased. The patient was at once held up by the legs with his head to the floor, and in that position I rapidly opened his trachea, inserted the handle of the knife and turned it across, thus widely separating the lips of the wound. An ounce or so of blood gushed from within the trachea, and respiration commencing, went on regularly. A tube was inserted and the patient put to bed. On the morning of the 21st the tube was not in position, but was replaced in the trachea.

February 25th, operation for removal of tumor. It being my intention to sever the pedicle with Paquelin's thermo-cautery, chloroform was used as the anaesthetic. Chloroform was inhaled through the tracheotomy tube. To prevent the passage of blood into the air passages, instead of a complicated apparatus (*i. e.* Trendelenburg's), a sponge of proper size, having a piece of ligature silk tied to it to facilitate removal, was passed into the top of the larynx. This sponge was not pressed "home" until the patient



was profoundly anaesthetized. An incision was carried down on each side of the nose, at the junction of the nose and cheek, then around the ala and through the middle line of the upper lip into the mouth. The cheeks were then freely dissected from the upper jaws as high as the nasal bones, infra-orbital foramina and malar bones. In this dissection the periosteum of the upper jaws was not disturbed. The nose was separated from the upper jaws and turned up toward the forehead. A fine saw was then made to cut each jaw from the malar process into the middle meatus of the

nose, passing just beneath the infra-orbital foramen, upward and inward. The posterior wall of the upper jaw where in contact with the pterygoid process was not divided, lest the superior palatine artery should be injured. The septum of the nose and the vomer were cut with strong scissors. Both upper jaws were strongly depressed and sank down, hinging upon the pterygoid processes. The tumor was well exposed, and its attachment found as expected. The pedicle of the growth was divided by Paquelin's cauterizer, and



the root of the pterygoid process together with the basilar process of the sphenoid thoroughly scraped with the curved knife, hot, of the same instrument. The curve of this blade was sufficient to enable me to reach quite to the back of the pterygoid root. One or two bleeding points in the mucous membrane of the septum were touched with the cauterizer. Chloride of zinc in crystals was thoroughly applied to the bone from which the tumor grew. The pedicle at its site of attachment was about one half inch in diameter. There was no depression or perforation of bone at this point.

Difficulty was experienced in extracting the polyp in consequence of its size, necessitating the use of the lithotomy forceps. Except upon the face, no vessels spouted, but there was a good deal of oozing. The wound was held open and the cut surfaces allowed to glaze. The jaws were replaced and held in position by a loop of wire passed through the cheeks near the outer angles of the orbits, and joined above the forehead by a rubber band. A celluloid plate was adapted to the teeth of the upper jaws and grooved, so as to hold the wire securely. The cheek flaps were then united to each other and to the nose by suture. Finally, the sponge was withdrawn from the larynx. The shock was great, and whiskey was given hypodermically to the extent of nearly an ounce.

Just as the wound was being closed, respiration became very slow and feeble, the pulse disappearing. The poles of a battery were applied over the sterno-mastoid muscle, and over the epigastrium, producing two or three strong, deep inspirations, after which all went well. The patient was put to bed and surrounded with hot bottles.

The tumor was between three and four inches long, pear-shaped, six inches in circumference half an inch from the lower end. Weight not taken; consistence moderately firm; color pink, with here and there areas of dark red.

Microscopical examination of the removed growth shows different tissues in different parts of the neoplasm. Large vessels, with sometimes sanguineous extravasations, well marked spindle cells in bands, newly formed mucous glands, lined with their characteristic epithelium, here the lumen filled with epithelium, there somewhat dilated with retained mucus so as to present the appearance of wide tubes, but at no point are epithelial-like elements found outside of the glands; finally, everywhere is apparent rapid proliferation of the connective tissue elements. The growth is classed as adeno-sarcoma.

The clinical history of the growth sustains this view. For five years the patient was aware of the existence of a tumor in his throat, yet after the lapse of so long a time, when he came under the charge of Dr. Chisolm, the left nostril was still free; yet nine

months later, when he came under my care, both nostrils were occluded and almost the entire pharynx filled. Erichsen, in his last edition, calls attention to the clinical fact that an apparently benign polyp being removed may recur in malignant form, and the case in point seems to sustain such a view. A sarcoma being of the connective tissue type, it is not difficult to understand how, by pressure or other irritation, a simple outgrowth may have engrafted upon it undue and later malignant cellular tissue proliferation. Dr. Chisolm informs me that the diagnosis of malignancy was made when the case was under his care and return prognosticated.

*February 25th, evening.*—Temp. 101°, pulse 99, respir. 20. Reacts slowly from operation. Milk  $\frac{3}{4}$  i.; brandy  $\frac{3}{4}$  ss. every half hour. Restless. Swallows easily.

*26th, morning.*—Temp. 102.5°, pulse 108, respir. 24. Surface warm, suffers no pain, bowels moved, urine free. Iced milk  $\frac{3}{4}$  ij.; brandy  $\frac{3}{4}$  ss. every hour.

*26th, evening.*—Temp. 103.5°, pulse 110, respir. 25. Perspiring freely; urine free; no complaint of pain. Milk ad. lib.; brandy diminished one-half.

*27th, morning.*—Temp. 103.5°, pulse 99, respir. 21. Bowels moved during night twice; urine free; perspiring freely. No complaint of pain. Union of face wound. Iced milk ad. lib.; brandy  $\frac{3}{4}$  j. every hour in milk. Cinchonid sulph. gr. v. t. i. d. Tracheotomy tube removed.

*27th, evening.*—Temp. 99.5°, pulse 99, respir. 21. Drinks milk in quantity. Doing well in all respects.

*28th, morning.*—Temp. 101.5°, pulse 99, respir. 18. Slight oedema of left eyelid. Nourishment continued. The oedema suggesting erysipelas, tinct. ferri muriat  $\frac{3}{4}$  ss. every two hours.

*28th, evening.*—Temp. 103°, pulse 90, respir. 16. Treatment continued.

*29th, morning.*—Temp. 98.5°, pulse 88, respir. 15. Oedema gone.

From this time the record shows nothing of moment. Union of the skin wound took place without suppuration, except at the right ala nasi, where a small point granulated, and the same

occurred at the upper end of the incision on the left side, a space not larger than the head of a large pin. The wires were removed from the cheeks on the eighth day, an inter-dental splint being substituted, at which time the patient began to go about his room.

*March 15th.*—Patient was discovered eating beef and potatoes, and acknowledged having used his jaws in eating for three days. The union between the bony surfaces, which had previously been stiff, was now much more loose, so the wires were again inserted, and the patient cautioned.

*March 23d.*—Patient returned home, still wearing the wires. The connection between the jaws much stiffer than one week previously; every prospect of good union. The mutilation of the face is very slight, since the incisions which healed without suppuration, except at the points mentioned, lie in the natural furrows on either side of the nose. The cicatrice through the upper lip will be concealed by a moustache.

Extirpation of one upper jaw was, I believe, first performed in 1820, the late Dr. Jameson of this city being the operator; his patient recovered. Osteo-plastic resection of one upper jaw was devised and first practised by Langenbeck in 1859, and has since been successfully repeated by himself and others. Temporary depression, osteo-plastic resection, of both upper jaws has been attempted, so far as I am aware, but once, by Cheever, of Boston. His patient succumbed one hundred and twenty hours after the operation, never having rallied beyond the stage of "prostration with excitement." In the case now reported the incisions were made as in Cheever's, but operative measures upon the upper jaw were preceded by a tracheotomy. To this latter provision I am largely inclined to attribute the successful issue, as thereby free respiration was assured, and danger of any foreign substance entering the air passages removed. The prostration following the operation was great, yet reaction came on as usual after severe measures, and subsequently all conditions were very favorable, the temperature on two occasions only rising to  $103.5^{\circ}$ , and the pulse but once reaching 110. With the exception of the third day, February 28th, when puffiness of one eyelid was noticed, erysipelas feared

and iron administered, convalescence was uninterrupted. For twenty-four hours after the operation the mucous membrane of the upper jaws was less florid than that of the lower; by the second day the eye could detect no difference in color. The absence of pain was a noticeable feature, no opium or other hypnotic was administered at any time.

The method employed to prevent the passage of blood into the trachea is worthy of notice, as infinitely more simple than any other, while nothing could be more efficacious. For one hour the sponge remained in position, giving rise to no cough, yet entirely plugging the top of the larynx. The sponge was conical, two inches long, tapering from one-half inch to two inches in diameter, and was passed into the larynx between the epiglottis and arytenoid cartilages. After removal, the lower intra-laryngeal end was scarcely tinged with blood, showing how perfect the protection afforded to the air passages had been. The tracheotomy wound was thoroughly healed when patient left hospital.



