

PAPILLOMA OF THE LARYNX.*

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REPORTS OF CASES.

Case 1. Papilloma of Larynx. Microscopical diagnosis adenocarcinoma. H. L., age 35 years, brass worker, hoarse for six months. First seen Oct., 1897. Voice restored by removal of small papilloma. In Oct., 1903, a papillomatous growth above vocal cord, left side, was removed and examined microscopically. Diagnosis—probable epithelioma. A few months later character of growth changed—smooth and more vascular in appearance. This was removed by snare and sent to a New York laboratory for diagnosis. The report was adeno-carcinoma and thyrotomy advised. It should be mentioned that just prior to this operation his wife died following operation for supposed cancer of the breast. In March, 1904, there were many small masses above the vocal cords on both sides and one quite large in the anterior commissure. In June, 1904, the larynx was thoroughly cleaned out by snare and forceps and soon thereafter I cauterized with trichloracetic acid. This method deserves special description. I had a brass tube made—like an intubation tube with thin walls and fitted to the O'Dwyer introducer. This tube had a small opening below for breathing and a large fenestrum opposite the site of the papilloma. When the tube was in the larynx, respiration was easy and the base of the growth after removal by curette was thoroughly rubbed with crystals of trichloracetic acid. After swabbing and spraying with alkaline solution to neutralize and remove excess of acid the cannula was withdrawn. The escharotic action was confined to the fenestrated area and there was no serious reaction. The growth did not return for five years. In 1909, voice was normal but I found a small fibrous nodule at the original site. As he had no inconvenience, he refused to have it disturbed. On my advice he had given up foundry work and followed farming with decided benefit to his general health.

This man was certainly a proper candidate for thyrotomy and radical extirpation of tumor in 1903. Clinically and microscopically it had malignant characteristics.

The latest report I have is dated 1913, and there is no active recurrence.

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Case 2. Multiple Papilloma of Larynx. Asthma a complication. Mrs. B., age 40 years, hoarse for nine months, laryngeal dyspnoea for weeks. I saw her in November, 1913, and she was then in a critical condition. She had suffered from asthma of very severe type for years, aggravated in the summer and fall by hay-fever, and of late had laryngeal dyspnoea due to the papilloma. Between the three, asthma, hay-fever and laryngeal obstruction, she had a sorry time of it. Morphine and adrenalin gave some relief. Operation was very difficult as she had the usual hyperaesthesia of mucosa and no self-control. In several sittings, under local anesthesia, supplemented by large hypodermics of morphine and adrenalin, the larynx was fairly well cleared by direct and indirect method. The tumors were removed from above and below the vocal cords. Subsequent operations failed because of the asthma. She no longer responded to morphine and adrenalin and the least irritation of certain areas within the larynx would precipitate most violent attacks of bronchial spasm lasting for two hours or more. She was simply impossible—a hyperaesthetic, neurasthenic, angio-neurotic, but fortunately the papilloma did not grow; examined in 1914 and is in fairly poor health as usual with a few visible warty nodules.

Case 3. Congenital Papilloma of Larynx. R. G., age 4 years, hoarse since birth. Operated for enlarged tonsils and adenoids nine months prior to consultation. Since then aphonia and progressive dyspnoea. When I saw him in April, 1912, he was exhausted from loss of sleep and the retrocession of lower thorax was so extreme that the lower arch fairly curved upwards and backwards. Tracheotomy gave relief and I allowed him to recuperate for a few days. The edges of the tracheal incision had been stitched to the skin and under general anesthesia I curetted by direct method from above and also from below. Rather more papillomata were removed through the tracheal opening than through the laryngeal cannula. They seemed to come off more easily from below and with very little bleeding. He left the hospital in five days with good voice and there has been no recurrence to date now more than three years. The father writes that he has a clear, singing voice.

Case 4. Papilloma of Larynx in Child. M. D., age 8 years. No speaking voice for two years. Past two months increasing dyspnoea. I saw this case rather incidentally. The physician in charge had diagnosed heart dyspnoea and had given such a hopeless prognosis that the parents had decided to let her die. But she didn't pass away as predicted and counsel was called. I found a little skeleton of a girl fighting for her life, no sleep for four days and nights and on the verge of exhaustion. After the tracheotomy she slept

for thirty-six hours and it required three weeks of careful nursing to get her into operative condition. Curettment from above and below cleared the larynx temporarily. The voice returned in a few days and improved for about six months. The recurrence of papilloma was in evidence about a year later and by the same method I removed one large mass. Since then, now one year, she has a good, clear voice. Massage of the larynx and neck has been practiced since the last operation. She can sing well and probably there will be no recurrence. Since the last operation she has had successive crops of warts on the hand. The coincidence of warts and laryngeal papilloma is not rare, and, in fact, they are embryologically related. The behavior of laryngeal warts and skin warts indicate that they are both trophic in origin and further, in the eccentricities of active growth and contagiousness as well as magical disappearance they are alike. Perhaps we would do well to adhere to the Virchow nomenclature *Pachydermia verrucosa* in certain types of *papilloma laryngis*.

Case 5. Papilloma of Larynx. L. N. C., age 35 years, aphonic for six months. Larynx quite full of small papillomata originating chiefly from anterior commissure and laterally. In the course of a year I operated twelve times—once under general anesthesia by the direct method—using forceps and curettes. His larynx was clean—no growth visible—at least six times and the voice was good, but the growths sprang up everywhere. They seemed to take root by contact. Even the under-surface of the epiglottis, where the laryngeal tube used in direct method had made pressure, developed a fungus-like mass. I tried various local applications, alcohol, fused nitrate of silver, tricholacetic acid, etc., after thorough removal, but it seemed useless. In all these operations I had carefully avoided laceration of deeper mucosa. In January, 1914, I made a thorough operation with Krause forceps and got a clear larynx. Massage of the larynx and neck had been practiced at brief intervals for a month prior to operation and continued for five months subsequently. To-day there is not a trace of growth or scar tissue. The voice is clear and a good result seems assured.

This group of cases, method of operating and results, presents only two features out of the ordinary. Curettment from below is worthy of commendation. With the head bent backward it is not difficult to pass the curette through the enlarged tracheotomy wound well up into the larynx and having the firm cricoid ring to curette against it is easier to detach a papilloma at its base than when curetting upward with only the more yielding false cords and thyroid for resistance. In doing a thorough curettment by this route one

must guard against hooking the tip of the arytenoids—otherwise the instrument can be swept freely over the whole interior, taking care to extract all fragments through the tracheal opening. I fancy that one can tell when the crop of warts is ripe by the way they yield to the curette and the absence of copious hemorrhage. It does not seem necessary to resort to the method recommended in papilloma laryngis of childhood by Clarke and others—tracheotomy and complete arrest of laryngeal function for a long period. The risks of prolonged tracheal respiration must be reckoned with. It is sometimes difficult, even impossible, to re-establish laryngeal respiration in these cases. There seems to be a reversion of the normal action of the larynx in prolonged tracheotomy respiration. It is more comfortable to the patient to breathe wholly through the cannula than to allow partial laryngeal respiration. Consequently the habit of closing the larynx during inspiration is gradually acquired. We observe this reversion of a physiologic action in many mouth-breathing children—the alae are closed during inspiration to prevent air passing through the mucous clogged nares and the habit is sometimes permanent even though the nasal passages become perfectly clear. In papilloma laryngis of childhood I would recommend early and careful curettment, repeated when necessary and present the instruments which I have found to be effective. There are curettes—chiefly of the Coakley sinus type with long handles for the upper direct method.

And a few words about massage of the larynx as an aid to prevent recurrence. This method should be thoroughly tried—manipulation of the larynx with deep massage up and down laterally and including all of the neck muscles and nerves. The strain of phonation in cases having laryngeal neoplasm produces abnormal muscle tension. The mere consciousness of this impediment to phonation tends to cause a more or less persistent muscle cramp from the submaxillary region to the anchorage below, as well as in the intrinsic muscles. This condition may be the cause of nutritional disturbance. Certainly it is a factor in producing the contact irritation which is conducive to epithelial hyperplasia. As in the last case mentioned, massage supplemented by hot fomentation followed by tonic cold applications, should be begun some weeks prior to the thorough operation and continued thereafter for a few months. The psychic effect is positively beneficial and further I am confident that my final operation in this case² was made more easy by the absence of the uncontrollable spasm formerly experienced. This is a refinement of detail which is worthy of trial.

Lynch, of New Orleans, has a method and a special direct technique which bids fair to quite revolutionize intra-laryngeal surgery. His modifications of the suspension apparatus, and his special instruments are the products of a genius. The surgical technique of laryngeal operations is perfecting along new lines and we reluctantly give up our old methods.

One object in presenting this paper is to bring up the discussion of the advisability of operation and re-operation in this class of recurrent neoplasms of the larynx and particularly in the young. The prevalent teaching is that we should try to give the larynx complete rest. This method is, it seems to me, unphysiological and to a degree unsurgical. Tracheotomy is necessary in most of these cases but the sooner the tube is out the better. I believe that papilloma can be eradicated either by the method described or by the Lynch method. The object of laryngeal rest is to restore normal nutrition and lessens irritation. It is probable that external massage is beneficial in precisely the same manner. Along the same line I would also suggest that voice training and easy phonation should be encouraged. In other words, give the voice organ a chance to re-establish normal functional activity by removing the offending neoplasm, early and repeated if necessary and with the least traumatism and further aid in restoring normal nutrition by external manipulations and training in voice production.

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Partial Laryngectomy. F. BERTRANY CASTILLO, *Rev. de med. y Cir. pract.*, Feb. 28, 1915.

The advantages of local anesthesia in this operation, it is the author's opinion, is that there is absence of the quantity of mucous secreted during general anesthesia; there is less tendency to the severe form of secondary hemorrhage; the patient retains his consciousness and can expel blood by coughing and can approximate the vocal cords when he is ordered to do so. The operation should, of course, be preceded by preliminary tracheotomy for two reasons: (1) It prevents asphyxiation at the time of operation, and (2), it accustoms the lungs to the inhalation of cold and unfiltered air, and thus aids in the prevention of bronchopneumonia.