PER-ORAL ENDOSCOPY AND LARYNGEAL SURGERY.

SPECIAL EDITORIAL DEPARTMENT.

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Spasm at the Entrance of the Esophagus. Adam Brown Kelly¹ discusses clearly and at length that form of dysphagia, produced by spasm at the entrance of the esophagus, which is frequently seen in middle-aged women. The etiology and pathology of the condition have never been satisfactorily explained. No history of burning of the throat with hot fluid or corrosives can be obtained. Many of the patients are nervous, and a few are neurotic, but most all state that they were not nervous until after the dysphagia developed. Hysteria can be excluded by the other stigmata of that neurosis. The frequency of spasm in the hypo-pharynx in women is striking and suggests a possible predisposition in women to lesions in this region. In Kelly's experience cancer at the mouth of the esophagus occurred in 75 per cent of his cases in women, while of those occurring elsewhere in the esophagus, 80 per cent were in men. The frequency of the onset of the dysphagia following the lodgment of a foreign body suggests injury as a primary cause. Jackson is quoted as having many times observed spasm of the esophagus resulting from lesions that produced no sensation themselves. A disturbance of the Auerbach (motor), Meissner (sensory) nerve plexus may so complete a reflex arc, which, having for its initial stimulus a foreign body, a fissure of local inflammatory lesion, may be perpetuated in recurring spasm by nerve-cell habit. We must also remember that cancer of the esophagus may be first evidenced by spasm at either of its orifices. No relation of the condition to syphilis either by Wassermann or therapeutic tests could be made out. Patterson calls attention to the association of a superficial glossitis, with a similar dry, thinned condition of the mucosa of the pharynx and hypo-pharynx, with this condition of spasm at the mouth of the esophagus. Pathologic examinations of portions of the mucosa removed from the tongue show a thinning of the superficial layers and an infiltration of the underlying tunica propria. He suggests that this may account for a lack of resiliency, which may increase the difficulty in the passage of food. Because of this lack of resiliency of the mucosa, it is pointed out, great care is necessary in examining the parts with the esophagoscope, for but slight force serves to break the mucous coat and

perforation of the esophagus may easily result. A definite train of symptoms can usually be elicited. There is a history of some difficulty in swallowing for years with occasional attacks of choking. The dysphagia gradually increases, and the periods of intermission become less frequent. Choking attacks finally become an almost constant accompaniment of the swallowing act. There are sensations of constriction in the region of the larynx, frequent catching of small food particles at this level, with distressing efforts to dislodge them; regurgitation of fluids on attempting to wash down the impacted body; nervousness in regard to eating, especially in the presence of strangers, and a preference to have meals alone and at leisure. There is often markedly increased flow of saliva and the corners of the mouth are often cracked due to saliva trickling out during sleep. Marked anemia and wasting is often seen.

The diagnosis of this as well as of all esophageal conditions is to be made with the esophagoscope and by a radiographic study of the swallowing function and chest. The treatment consists in dilatation of the upper esophagus and should be done esophagoscopically and not blindly. A single passage of the esophagoscope may cure the trouble in some cases. Relapses are common, however, but usually yield to further treatment.

Carcinoma of the Post-cricoid Region. From a careful study of 140 cases, A. Logan Turner² has evolved very valuable data and observations on cancer of the lower pharynx and esophagus. Statistics show that malignancy is the most frequent cause of esophageal stenosis and that the neoplasm is commonly located at anatomical narrowings of the lumen; the mouth of the esophagus, the aortic, bronchial and diaphragmatic constrictions. Because of the frequency of carcinoma in the laryngo-pharynx, this region he states should be included in considering cancer of the upper esophagus. Squamous cell epithelioma was the type in 139 cases; medullary carcinoma occurring in one case. The growths are usually single but the possibility of a second growth must be kept in mind, particularly when the question of surgical intervention arises. The disease, at first limited to the mucous coat and confined to a small area, as it grows larger involves the whole circumference of the lumen and spreads in the long axis. Later penetration of the muscular coat of the gullet and infiltration of the surrounding structures occurs. Particular attention is called to the fact that the thyroid gland is prone to be the seat of metastatic malignant growth, the primary focus being in the esophagus or laryngo-pharynx; and it is urged that preliminary laryngoscopy and, if necessary, esophagoscopy be done before operation on the gland is undertaken.

The previous observations of greater frequency of malignant disease in the upper esophagus and laryngo-pharynx in women and of the lower end of the esophagus in men is confirmed. It is interesting to note that although 86 per cent of carcinomata of the post-cricoid region are in women, malignancy of the larynx shows a percentage of 85 in favor of the male sex. It was also observed that the age incidence is less in women than in men, in over one-half the tumor was present before the age of fifty. The youngest woman was nineteen, the youngest man thirty-four. The duration of the disease is very difficult to determine, for in some the symptoms date from but a few days before the examination, while others have had dysphagia (probably precancerous) for a number of years. A lower grade of malignancy is seen in some patients than in others. Excluding two exceptional cases in young women, the average duration of symptoms in women was one and a half years. Outstanding features of the semeiology are the sometimes sudden onset of obstruction, following upon the sensation of a bone or piece of meat lodging in the throat, with no previous symptoms of dysphagia even though the tumor may be of considerable size. Gradually increasing dysphagia over a period of months is the usual history, however. Pain, in many cases referred to the ears, was associated with dysphagia in fifty-nine out of seventy-four cases. Blood-streaked mucus is sometimes expectorated, and an excessive production of mucous secretion in the throat is frequently present. Cough is usually a troublesome symptom. Hoarseness results from involvement of the recurrent laryngeal nerves or from extension of the disease into the larynx. Dyspnea requiring tracheotomy may supervene from the same reasons. The importance of careful examination of the neck by palpation, of the pharynx and larynx by mirror laryngoscopy, and of the laryngo-pharynx and esophagus by endoscopy are emphasized. Laudable caution is shown in refraining from passing esophagoscope through the cancerous mass in order to determine its lower limit. Removal of a specimen for biopsy is advised when possible. The aid of the fluoroscope and radiograph is sought in all cases.

Treatment as a rule is palliative only. Turner favors esophagostomy with subsequent insertion of a feeding tube, rather than gastrostomy, because of the opportunity the former offers for actually investigating the extent of the disease and its suitability for removal. Successful esophagostomy is dependent upon early diagnosis, and it is hoped that this may be possible in the future. Tumors of small dimension, situated on the posterior pharyngeal wall

immediately behind the upper part of the cricoid plate may be removed successfully. One case so operated upon by Mr. David Wallace is well, nine years after operation, still wearing her esophageal feeding tube.

An Intra-tracheal Tumor: Removal by Peroral Tracheoscopy. Doubtless in future medical literature many curious pathological conditions of the lower air passages will be found to have origin in the exposure to the poison gases of the recent war. The case reported by Herbert Tilley³ was that of a very healthy and active British officer who was severely gassed on March 21, 1918. Increasing dyspnea developed, accompanied by stridor, wheezing, and a general disability which prevented his working. On June 16, 1919, the mirror revealed a normal larynx. By the maneuver of having the patient stand in a stooped position while Mr. Tilley knelt below him, the lower trachea could be well seen with the mirror. The lumen appeared filled with a pale, reddish-gray tumor which moved upward and downward with breathing, and seemed attached near the opening of the right bronchus. Under general anesthesia this pedunculated growth was removed with forceps by tracheoscopy through the mouth. The patient made an uneventful and complete recovery. Microscopic examination showed the specimen to be a "papillary granuloma," and Prof. S. G. Shattuck, the eminent pathologist, concurred with Mr. Tilley in the view that "The gas had caused a localized ulceration of the trachea, and that the granulations forming on this had assumed the formation of a tumor, which had become pedunculated owing to the tractive and propulsive influences of the inspiratory and expiratory currents of air."

Technic of Esophagoscopy. Using a frontal head light, Ledoux,⁴ because of the feeble illumination afforded, performs his esophagoscopies in a dark chamber. The instrument table is lighted by a small photographer's lamp, the red glass being replaced by one of blue. The handle and the interior of the tubes are painted black and the patient draped in black so that there can be no reflected light. The author considers the distally lighted and the proximally lighted tubes give vastly better illumination but states that they unfortunately present serious inconveniences to the introduction of instruments. Ledoux has found the sitting position, using Brünning's chair, and the recumbent position unsatisfactory, and has developed his technique of esophagoscopy as follows: After preliminary cocaineization of the hypo-pharynx the patient is seated upon the floor with the right leg extended and the left flexed at the

knee, the left ankle being placed under the right popliteal space. The assistant sits behind with the patient's shoulders between his knees, and his hands in the axillæ of the patient. The tube is introduced behind the arytenoid while the operator is in the sitting position. When the mouth of the esophagus is reached the operator stands and exerts slight pressure with the tip of the esophagoscope while the assistant rises from his chair and lifts the patient, thus drawing the esophagus up over the esophagoscope as one would a stocking over the leg. Seats are resumed when the tube enters the thoracic gullet, and the whole body of the patient is inclined forward. By this procedure all portions of the esophagus except the anterior wall are said to be seen. To remedy this defect the author has had constructed small oval mirrors carried by long handles to the inferior extremity of the esophagoscope.

Artificial Esophagus. The surgical technique consists in the moving of a short loop of the jejunum to a bed under the skin of the chest and the implantation of one end of this loop into the stomach. The skin is then incised to the right and left of the median line, these parallel incisions being from 6 to 7 cm. apart. The inner lips of the two incisions are turned back and sutured together, thus forming a skin-lined tunnel from the throat to the stomach. The stump of the esophagus is brought out through the skin in the neck and sutured to the upper end of the skin-lined tunnel. Then the lower end of the latter is sutured to the short segment of the bowel loop that has been brought up to bridge the gap between the skin tunnel and the stomach. In all of the steps of the operation care is made to leave sufficient blood supply to all parts. Hirschmann⁵ has excellent results in three cases with absolutely impermeable esophageal stenosis, one of whom is in the best of health, a year and a half after the operation.

Diagnosis and Surgical Treatment of Intra-thoracic Goiter. Palliative Tracheotomy. Tracheostenosis. (Gustav Schwyzer).⁶ Much in this interesting article is of value to the laryngologist, for he is often and properly consulted for relief of the dyspnea which may be the only outstanding symptom of the condition. The anatomy of the mediastinum is reviewed. Particular attention is called to the small size of the superior aperture of the thorax which is filled completely by the structures which normally pass through it, these structures undergoing serious compression when pathological masses are present. Laryngoptosis may be present. Paralysis of one or both cords may be evidenced by hoarseness. Compression of the trachea produces the most serious degree of dyspnea and

may be seen at times with the mirror. (The author does not seem to have had the benefit of endoscopic aid in these cases.) Collapse of the trachea during goiter operations was observed in three cases; the trachea was flaccid like the sail of a boat and filled out during expiration, its walls collapsing during inspiration. Tracheotomy was performed in two of these cases and the author emphasizes the importance of the tracheal cannula as a part of the instrument armamentarium. Atrophy of the tracheal cartilages due to the pressure of the goiter is reported, the mass acting the part of a splint, which when removed allows collapse of the tracheal walls. Compression of a bronchus or of the lung may be present. It is important to remember that dyspnea may be the result of impaired heart action, since the goiter may be of the toxic variety, or pressure of the tumor on the large vessels of the thorax may produce the so-called "mechanical goiter heart." A characteristic symptom of the latter is the net of dilated surface veins of the neck and upper chest, collateral venous circulation which drains into the inferior vena cava. The importance of fluoroscopic and radiographic examination is emphasized. The author uses local anesthesia in the toxic or dyspneic cases, a practice which is probably a factor in his excellent results. No mention is made of intra-tracheal anesthesia, the use of which the reviewer believes, much reduces the chances for mortality from tracheal compression in goiter operations and is the safest method for the administration of general anesthesia in thoracic surgery.

Laryngo-tracheal Stenosis from Yperité Gas. (Lannois and Sargnon).⁷ The serious and delayed damage to the lower air passages caused by exposure to the war gases is well typified by the report of a young artilleryman who, following exposure to yperité, developed an ulcerative laryngo-tracheo-bronchitis. With the healing of the ulcerations increasing dyspnea developed, necessitating tracheotomy. Lower bronchoscopy showed the trachea ulcerated in places, filled with large masses of purulent material, and extremely stenosed from the level of the larynx to the carina. Because of the small size of the bronchial orifices it was impossible to enter the bronchi and attempts to dilate the trachea were unsuccessful. There was no evidence of lues in the patient or his parents and he had previously been in excellent health. There was no history of tuberculosis in the patient or his family; it was, however, feared that tuberculosis infection would occur because of the lowered resistance of the parts and the poor condition of the patient. In the same article a case of Jacod's is cited in which a young soldier exposed to yperité

on July 31, 1918, developed a progressive subglottic stenosis and purulent, edematous tracheo-bronchitis. Tracheotomy was done without relief, and the patient died on October 17, 1918, from broncho-pneumonia.

Morell MacKenzie, the Father of British Laryngology, Founder of "The Journal of Laryngology." (James Donelan).⁸ Laryngology as a department of medicine and surgery dates from the laying of the foundation by Sir Morell MacKenzie. The present generation of laryngologists will be interested in this brief biography of a truly great man written by one who was intimately associated with him for a period of fifteen years. It cannot be abstracted in a way that would lessen the necessity of reading the entire article.

1. *Jour. Laryn., Rhin., Otol.* London, 1919, Aug., Vol. XXXIV, p. 285. (D. R. Patterson Ibid., p. 289.)
2. *Jour. Laryn., Rhin., Otol.* London, 1920, Feb., Vol. XXXV, p. 34.
3. *Jour. Laryn., Rhin., Otol.* London, 1920, Jan., Vol. XXXV, p. 1.
4. *L'Oto-Rhino-Laryngologie, Internat.* Sept., 1919, p. 353.
5. *Therapie der Gegenwart.* Berlin, Oct., 1919. Vol. 60, No. 10, p. 368.
6. *Jour. A. M. A.*, Feb. 28, 1920, Vol. 74, p. 597.
7. *Rev. de Laryngol. d'Otol. et Rhinol.* 1919, August, No. 16, p. 409.
8. *Jour. Laryn., Rhin., Otol.*, 1919, June, p. 181.