

Mackenzie's Laryngeal Sponge Holder with Safety Catch (fig. 29, vol. i, p. 245).—For applying solutions to the larynx, with a safety arrangement for fixing the blades immovably together.

Mackenzie's Laryngeal Cutting Forceps (fig. 43, vol. i, p. 254).—This is an early pattern of the laryngeal forceps designed by Mackenzie, which is universally used throughout the world at the present day for the removal of benign growths from the larynx by the indirect method. He designed a later pattern, larger and heavier, so as to obtain a better balance.

Croup Brush or Sponge Holder.—Morell Mackenzie used to tie a small sponge or squirrel's tail on to this holder in order to remove the membrane in croup.

The following instruments, formerly in the possession of Morell Mackenzie, have been presented to the Royal Society of Medicine by Dr. Dan McKenzie to be included amongst the "Mackenzie relics." These instruments after Mackenzie's death came into the possession of the late Mr. Cresswell Baber, and were presented by Mrs. Baber to Dr. Dan McKenzie.

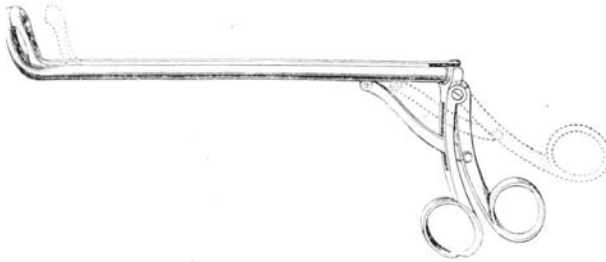


FIG 6.—Mackenzie's sliding post-nasal forceps.

Mackenzie's Sliding Post-nasal Forceps (fig. 63, vol. ii, p. 275).

Mackenzie's Reversible Tonsil Guillotine, engraved with Mackenzie's name (fig. 4, vol. i, p. 11).

Uvula Forceps.

Frankel's Palate Hook (fig. 32, vol. ii, p. 248).

Elsberg's Uvulotome (reference to this instrument in vol. i, p. 14).

Mackenzie's Guarded Wheel Ecraseur, similar to that previously referred to (Fig. 3) and designed by Morell Mackenzie. It was made for large naso-pharyngeal growths.

SPASM AT THE ENTRANCE TO THE OESOPHAGUS.¹

BY A. BROWN KELLY, M.D.

THERE is a variety of dysphagia, not uncommon in middle-aged women, which in all cases presents almost identical signs and symptoms and which reacts uniformly to treatment, but as to the pathology of which we are ignorant. In order to obtain information as to the local condition

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at fault the hypopharynx and œsophagus of a number of these patients have been examined, and I now beg to submit the results and some deductions for your consideration.

All my patients were women, and two-thirds of them were unmarried. When first seen by me the majority were between forty and fifty years of age, and the dysphagia—which was the sole symptom complained of—had been present for years.

The onset in some had been gradual and marked by occasional sudden attacks of choking, with intervals during which there was no difficulty. These intervals had grown shorter by degrees until dysphagia was constant. In others the disability appeared to have reached its maximum severity at once, and dated from the time a foreign body, *e. g.* a currant, pea or piece of crust had stuck in the throat. In no instance could an account be obtained of the throat having been burned by hot food or drink.

The history of a long period of anæmia, dyspepsia or impaired general health preceding the onset of the symptoms was occasionally given, and several of the patients were neurotic. On the other hand, the dysphagia was regarded as primary by a fair proportion of the patients, and the disturbance of nutrition and nervousness in connection with swallowing as secondary.

The symptoms need only be briefly enumerated: Dysphagia referred to the level of the larynx; necessity of masticating thoroughly and swallowing carefully—dietary consequently reduced to semi-solids; frequent catching of a fragment of food at the mouth of the œsophagus, with distressing efforts to dislodge it; regurgitation of liquids on attempting to wash down the impacted body; nervousness in regard to eating, especially in the presence of strangers, and preference to have meals alone and at leisure.

The dysphagia was attributed by the patient usually to a tightness of the throat or to something behind the larynx gripping the food, so that a deliberate effort to force it down was required. In a few cases weakness of the muscles of swallowing was stated to be the cause of the disability, so that when the patient returned home in the evening—tired after the day's work—she was unable to get food over until she had rested.

Examination of the mouth and pharynx as a rule revealed nothing abnormal, but in a few instances the mucous membrane had a pale, waxy aspect, and the tongue was smooth and devoid of papillæ. I was inclined to attribute these appearances to the anæmia resulting from the restricted and often insufficient dietary. The fissures at the angles of the mouth, sometimes also met with in these patients, were ascribed to saliva trickling out during sleep. The secretion of saliva, as is well known, may be considerably increased in œsophageal obstruction—Roger's salivary-œsophageal reflex. The appearances noted were therefore regarded, not as causes, but as consequences of the dysphagia.

The treatment I formerly used in this affection was that commonly in vogue, *viz.* the passing of bougies without previous inspection of the œsophagus. In some cases no special resistance was met with; in others it was almost unyielding.

When dealing with a case of the latter kind some years ago, as it was thought inadvisable to persevere in a procedure by no means free from danger, the patient was put under a general anæsthetic, and on inspection a circular membranous web was found, reducing the lumen

of the entrance to the œsophagus to about 5 mm. This was ruptured, and the patient got relief from all her symptoms. In this case, had the passage of the bougie at first succeeded, a diagnosis of spasmodic closure would have been made.

In view of this case and of the fact that a circular fold of mucous membrane forming a ring-like stenosis has been met with in the same situation by others, the question suggested itself, Is the obstruction due to spasm, as has been commonly assumed in the past, or to an organic stricture, resulting possibly from cicatricial contraction or the union of adjacent surfaces? In order to settle this it was necessary to determine the local condition at fault. I therefore selected cases in which very pronounced dysphagia had been constantly present for years and in which no bougie had been used. In these the entrance to the œsophagus was carefully inspected under chloroform. Ten such patients were dealt with in whom respectively the duration of the dysphagia had been 2, 3½, 5, 7, 8, 10, 12, 23 and 33 years, and in a patient aged 44, as long as she remembered.

On inspection it was found that the deepest part of the hypopharynx did not present the usual sphincter-like appearance. Instead of rounded folds, or cushions of mucous membrane forming a stellate arrangement, tense bands passed in various directions with their thin edges tightly pressed together. The entrance to the œsophagus appeared as a pin-hole, or small irregular opening, or obliquely placed slit, and was not always in the middle line. Sometimes one half of the mouth of the gullet seemed closed by a web passing backwards from the cricoid. The manner in which the appearances varied with the position and pressure of the endoscope, the rigidity of the tissues, and the caution necessary to avoid tearing any membrane that might be present, made the examination difficult. In several of the earlier cases, while manipulating the tube to obtain a fuller view, and in spite of all precautions, it suddenly slipped onwards into the œsophagus, and I was left in doubt as to whether a spasm had yielded or a membranous stricture had been ruptured. To determine this point in subsequent cases, a small-sized metal urethral catheter, which had been straightened and over the end of which the tip of a finger-stall had been tied, was passed through the constricted opening into the œsophagus, and the bag was then blown up and withdrawn. From the manner in which the folds of mucous membrane fell apart it became evident that the stenosis had been due to their firm approximation and not to organised adhesions between them. An œsophagoscope of large calibre was passed in order to widely dilate the mouth. The gullet was usually found unduly patent and occasionally pale and dry.

The results following the procedure described were striking and apparently more lasting than those obtained by the passage of bougies. At the first attempt to swallow after the stretching the patients felt as if something had been removed and at once announced that they were cured. Two or three days later, when the soreness due to the examination had passed off, they ate meat, ham, prunes and other foods of which for years they had been unable to partake. They also found that they could converse at meals and that they need not pay constant attention to mastication or be nervous about swallowing. As a consequence the general health improved and the weight increased. Some of the patients have had no return of their symptoms after an interval of one or two years; others after a few months have felt the need of

care and have shown a slight tendency to choke. In exceptional cases after a period of improvement lasting from one to three months there has been relapse, but normal deglutition has again been re-established—at least temporarily—by passing a bougie.

Dan McKenzie (*JOURNAL OF LARYNGOLOGY, RHINOLOGY, AND OTOTOLOGY*, 1918, p. 270) has reported the result of the examination of two pronounced cases of "post-cricoid spasmodic stricture." In this situation he found in both the lumen reduced to a small circular orifice of from 3 to 5 mm. The stricture resisted dilatation with the tube, but yielded easily to a bougie.

It having thus been demonstrated that the obstruction in this affection is caused by spasm at the entrance to the œsophagus, and only exceptionally by a membranous stricture, the nature or cause of the spasm has next to be considered.

Hysteria as a factor may be excluded at once. In hysterical dysphagia the symptoms are intermittent; often there is the want of desire to swallow, and the bolus hystericus and other stigmata may be present.

A few of the patients are neurotic and as such may be predisposed to spasm, but the majority betray no sign of this, state that they never were nervous until the dysphagia set in, and that it is only in connection with swallowing that they experience any nervousness. The fact that almost all the patients are women may be adduced in favour of a neurotic basis, but when we consider that most cases by far of cancer at the entrance to the gullet occur in women, one asks whether there is not something at this site peculiar to the sex that predisposes it both to cancer and to spasm. I might here mention that of my cases of cancer in the hypopharynx and at the mouth of the gullet over 75 per cent. occurred in women, while of those of cancer elsewhere in the œsophagus over 80 per cent. occurred in men. In cardiospasm and enterospasm, on the other hand, the sexes are affected about equally.

The frequency with which a history is given of the dysphagia having set in after the impaction of a foreign body at the entrance to the gullet strongly suggests an injury in this situation as the primary cause. Bronner (*JOURNAL OF LARYNGOLOGY, RHINOLOGY, AND OTOTOLOGY*, 1913, p. 32) found in several cases of the same kind a small fissure at the mouth of the œsophagus, and thought that this was of traumatic origin due to the irritating effect of a foreign body. He also considered that it was related to the dry catarrh of the pharynx and hypopharynx, which frequently coexisted. Chevalier Jackson also has observed spasm of the œsophagus resulting from lesions that produced no sensation themselves.

As bearing upon the ætiology of the affection under discussion, I should refer to the case of a man whose symptoms led me to believe he had spasm of the upper end of the gullet. He had had dysphagia for nine months and morsels of food occasionally stuck behind the larynx, causing complete occlusion. One day a small piece of veal was impacted for two hours. After this had been dislodged he was unable to swallow anything, even water, for four days, and in consequence was admitted to hospital as an urgent case. By œsophagoscopy I found nothing abnormal at the mouth of the gullet, but a short distance above the hiatal level a malignant growth. When last I saw him, three weeks after the passage of the œsophagoscope, he considered himself greatly improved. Since the examination he had been able to

take soft food freely without any fear of choking such as he previously had. In this case the dysphagia due to the growth had become greatly aggravated by spasm at the mouth of the gullet, which probably was first excited by injury from some rough morsel of food and latterly made absolute by the accident with the piece of veal. After the mouth of the gullet had been stretched by the œsophagoscope the spasm passed off and the patient was comparatively comfortable, although the malignant neoplasm was presumably growing.

In attempting to elucidate the pathology of this affection it might be helpful to take a wider view of the subject than we have been accustomed to and consider spasm as it occurs at the lower end and other parts of the gullet, at the pylorus and in the intestine. In seeking for conditions common to all these situations we are at once confronted with the innervation peculiar to the whole alimentary tract from the mouth of the œsophagus to the end of the rectum. We find, apart from the other nerve-supply, that the gangliated plexuses of Auerbach and Meissner form in themselves a complete arc, so that stimuli received by the sensory portion (Meissner's) are conveyed by communicating fibres to the motor portion (Auerbach's). If there is a disturbance of balance between the two and the sensory is in a hyperæsthetic state or unduly irritated by a foreign body, fissure or inflammatory condition, or, if the motor is unduly stimulated, it is probable that abnormal local contraction or spasm will result, and once this spasm is established it will tend, as Chevalier Jackson states, to be perpetuated by the nerve-cell habit.

A CLINICAL TYPE OF DYSPHAGIA.¹

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I SHOULD like to call more particular attention to the association of two local conditions met with in the upper food-passage, viz. what is usually called spasmodic dysphagia and the affection known as superficial glossitis. Both may and do occur independently of each other. In combination the relationship is not quite clear: it may be coincidental, but the practical aspect of it is that the condition of the patient is modified by it. In my experience both states are practically confined to women.

The history given by the patient is that dysphagia is first noticed in early middle life—she gets what is known as “a small swallow,” *i. e.* a longer time is taken at meals; later the food is restricted to soft solids and finally to fluids. When the patient comes under observation she is pale, sallow, and has lost weight. On inspection of the mouth the upper surface of the tongue appears excessively smooth and glossy, with whitish patches in places on the dorsum as if it had been brushed by a solution of nitrate of silver. The same patchy appearance may also be seen on the pale buccal mucosa, and a characteristic feature is the cracking of the angles of the mouth. There is a tendency to dryness of the mouth, the secretion being seen as white points of sticky

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