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ON

AUSCULTATION OF THE ŒSOPHAGUS.

BY

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AN addition has been made to our means of diagnosis in case of disease of the œsophagus, which consists in making the patient go through the process of swallowing, the physician listening to the sounds thereby produced. This method of auscultation of the œsophagus is so easy, and its results so instructive and valuable, that it cannot be made too widely known. It was first introduced less than five years ago by Dr. W. Hamburger, a practitioner in Bohemia, and has proved of incalculable importance to all who use it. But, although exceedingly easy, it requires, as Dr. Morell Mackenzie, in a clinical lecture at the London Hospital, has recently justly said, considerable practice and much patience: "practice, because it is requisite to get the ear well accustomed to the œsophageal sound in health; patience, because in each case of disease it is necessary to apply the stethoscope successively down the whole length of the œsophagus, and to listen attentively at each spot." You know the œsophagus is about 9 inches long, and situated behind the windpipe and in front of the vertebral column partly in the neck and partly in the chest. It extends from the pharynx, on a level with the lower border of the cricoid cartilage, opposite to the 5th cervical vertebra, to the cardiac orifice of the stomach, on a level with the 9th dorsal vertebra. It makes two curvatures to the left side, one at the root of the neck and the other as it passes forward to the opening in the diaphragm. Its diameter is nearly an inch, when fully distended; but in the quiet condition, it is disposed of in rugæ or folds. In order to locate it for the purpose of auscultating it, you must remember that it commences about an inch above the so-called vertebra prominens (the 7th cervical), and terminates a little below the level of the lower border of the scapula. (See *Figure*.) You must auscultate it both in the

neck and in the thorax: in the neck by means of the stethoscope; in the thorax either with or without the stethoscope, but the sounds are heard more distinctly if the ear be pressed directly against the naked back.

The patient being ready, direct him to take, and hold in his mouth, a good mouthful of liquid, plain water or fluid a little thickened, such as gruel or arrowroot; apply the stethoscope or ear over the portion of the œsophagus to be examined; make a sign to the patient to swallow; and listen.

On the side of the neck, a loud gurgling noise, a metallic "glo-gloo" sound is heard, the so-called "pharyngeal sound," which is due to the commingling of air with the swallowed liquid, and which is sometimes so loud as to drown every other sound even much lower down. But usually in the whole of the thorax, the true "œsophageal sound" becomes audible. This is distinctly the sound of the rapid descent of a small spindle-shaped body of soft consistence. Dr. Hamburger goes further; he describes the sound as characteristic of an egg-shaped body, about an inch in length and half an inch in breadth, the small end of the egg directed upward and the large end downward; this is a refinement of perception to which few will attain, but this refinement is not needed to gain valuable information from the practice of the auscultation. I have said that sometimes the pharyngeal sound is so loud that it obscures every other sound; but, generally, the œsophageal sound can be distinctly made out even high up over the œsophagus, more plainly, it is true, lower down, say on the left side of the first dorsal vertebra and below. The relative intensity of the pharyngeal over the œsophageal sound is diminished by the patient taking a continuous draught of water.

There are four points to which attention is to be directed in clinical auscultation of the œsophagus: viz., the character of the œsophageal sound; the rapidity of the descent of the bolus; the direction which the bolus takes; and the shape of the bolus.

I. The character of the œsophageal sound is the point most readily appreciated. We may find in a patient, that the sound, at a particular point, becomes feeble, is modified or stops; while it is distinct enough above that point. This may come from, 1, stricture; 2, impacted foreign body; 3, retention of the bolus in the pouch of a diverticulum; 4, organic dilatation; 5, paralysis, and 6, rupture. I could cite a number of cases from my own practice in

which the precise seat of one of the first four of these pathological conditions was revealed by the method of auscultation. I have not met with any case of paralysis confined to a definite portion of the œsophagus, nor of rupture.

There may be a grating or friction sound, which indicates roughness of the inner surface of the œsophagus, such as might accompany croup, large ulcers with ragged edges, polypous excrescences, etc.

II. The rapidity of descent of the bolus. As the larynx ascends at the commencement of the act of swallowing, it is very easy to ascertain the precise moment of this commencement, by placing the thumb and index finger upon the upper edge of the thyroid cartilage. The time which elapses between the rising upward of the thyroid cartilage and the arrival of the bolus at the portion of the œsophagus auscultated can then be determined. We find that in disease the normal rapidity is diminished, but accurate detailed observations are still wanting on this point.

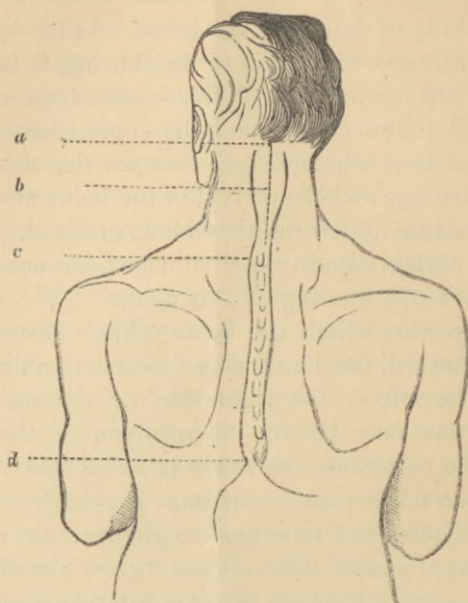
III. The direction which the bolus takes. Instead of passing vertically downward, the bolus may descend in an oblique direction toward the left or the right side, or rise up again. The oblique deviation may be due to aneurism of the aorta or to exostosis of the vertebræ; the mode in which the rising upward or regurgitation takes place, sometimes enables us to distinguish between a spasmodic and an organic stricture: for, in an organic stricture, an appreciable time elapses before the food is forced upward, in spasmodic stricture the regurgitation is instantaneous.

IV. The shape of the bolus. I have stated that Dr. Hamburger goes so far as to describe the precise shape and size of the bolus as revealed by the normal œsophageal sound. He also describes alterations of the normal sound indicative of differences in the shape. He says, *f. i.*, that the lower end of the egg-shaped bolus is more and more blunted or truncated in proportion to the feebleness of the muscular contraction of the walls of the œsophagus; that in case of stricture at the cardiac orifice, the shape becomes funnel-shaped with the small end downward with frequent regurgitation, and that these deviations from the normal shape can positively be determined by the variation of sounds heard.

Whether this refinement of perception can be acquired or not, it is certain that auscultation of the œsophagus is a valuable addition to our means of diagnosis in the diseases of an organ which,

until recently, has evaded all efforts at physical examination except the single one by the bougie or sound.

In the neck the œsophagus is a little to the left of the trachea, and the stethoscope should be placed upon the left side of the neck. To assist in determining the proper place for auscultation on the back, I have had this diagram made from a wood-cut published by Dr. Morell Mackenzie in the London *Lancet* of May 30, 1874.



a. Inferior curved line of occipital bone, about five-eighths of an inch below the occipital protuberance.

b. Pharynx.

c. Vertebra prominens (seventh cervical vertebra).

d. Termination of œsophagus, opposite the ninth dorsal vertebra.

In conclusion, I beg leave to recommend to this Section the appointment of a special committee to report, at the next annual meeting of the Association, on the Means of Diagnosis at our command in diseases of the œsophagus.

