THE STETHOSCOPE AS AN AID IN THE EARLY DIAGNOSIS OF GASEOUS GANGRENE.

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Many wounds exhibit a varying degree of swelling of the surrounding parts within twenty-four hours of their infliction. In a certain proportion of these cases, especially if the wounds are not drained, the swelling increases and the part becomes infected with gaseous cellulitis, which is recognized clinically by well-known signs, e.g., resonant muscle, characteristic odour, etc. In the remainder, gaseous cellulitis does not develop and the swelling gradually subsides under ordinary treatment.

Crepitations can be detected by auscultation with a stethoscope of the portion of a limb infected with gaseous cellulitis. While this sign is present in a well-established case with "drummy muscles," its importance lies in the fact that it is present in a number of cases before the muscle becomes resonant to percussion, and it is therefore useful in distinguishing between the first group of cases mentioned above and the second.

The sign is produced by placing the stethoscope on the swollen part and then alternately increasing and decreasing the amount of pressure applied to the chest-piece; this produces the necessary movement of the underlying muscle. Another method is to press the swollen part in several places with the finger, while the chest-piece is firmly placed on the centre of the swollen area.

The crepitations thus produced vary in intensity and in number. In the early cases they resemble those heard in the lungs affected with chronic tubercle and may be few in number; in the later cases they are much more numerous. In cases where subcutaneous gas is present, they are much louder and are similar to those heard in ordinary subcutaneous surgical emphysema.

The crepitations may disappear temporarily from a given area, if that area has been manipulated for a short time.

Care should be taken to avoid mistaking the sounds produced by gas from those due to the presence of blood-clot and from those due to friction between the skin or hair and the stethoscope.

The detection of these audible crepitations may be of use in two ways: (1) In cases in which they are present the wound should be more freely opened up than would otherwise be done, and if necessary secondary incisions with free transverse division of the deep fascia should be made into the muscle over which the crepitations have been heard.

(2) During active operations when owing to the large number of cases admitted to the clearing stations it is impossible to drain all wounds involving muscular tissue, cases in which crepitations are present should have preference as regards operation over those in which they are absent.