A RAPID METHOD OF LOCATING SHELL FRAGMENTS, USING X RAYS

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The following method of locating foreign bodies (metallic), with the assistance of x rays, is thought worthy of description by reason of its extreme simplicity and the rapidity with which it enables shell fragments to be removed when deeply embedded in muscle.

The method was developed in the County Hospital, Dover, where from time to time numbers of badly wounded patients were admitted as a result of naval actions in the Channel and hostile cross-channel shelling. The majority of these patients were severely shocked and had large pieces of shell fragments in their limbs.

It is difficult and time-taking to find and remove these F.B.s, particularly in the thigh. This task was aggravated when the F.B. eventually came to rest, deep in the limb muscle, some 10 to 12 in. from the entrance wound. The method has also been of use in removing F.B.s in the forearm and vertebral muscles. When the F.B. is palpable under the skin no accurate location is of course required.

The problem is to correlate accurately and quickly the radiographic appearance with the limb as it lies on the operating table. If anatomical landmarks are available the problem is to some extent solved, but with this apparatus no landmarks are necessary.

The Apparatus

- (1) Camel-hair brush.
- (2) Solution of gentian violet in ether.
- (3) Strip of adhesive tape 30 in. long, containing symmetrically spaced lead shot (gauge 6 from a twelve-bore cartridge). This is made by placing a piece of tape, 1 in. wide by 30 in. long, on a table with the sticky side up. The shot is placed firmly on the sticky surface at intervals of 1 in. (See Fig. 1.) Cardinal points are marked by three pellets—i.e., at every 12 in. The pellets are enclosed by a second strip of adhesive tape placed over the first, adhesive sides together. (See Fig. 2.)

FIG. 1

FIG. 2

Technique

The injured limb is stripped of clothing preparatory to examination and radiography. The tape is laid along the length of the limb and the gentian violet solution is applied in small dots to correspond with the lead shot in the tape, particular attention being paid to the cardinal points. (See Fig. 3.) A cardinal point is laid in the same

transverse plane as the entrance wound where possible. The ether evaporates rapidly, leaving the aniline dye strikingly marking the skin. (See Fig. 4.) The whole technique takes but a few seconds, and every patient with a suspected F.B. can be marked as a routine. Thus at operation the gentian violet dots on the limb correspond to the opaque lead shot on the x-ray film. The transverse plane of the F.B. is at once evident. A lateral skiagram of the limb will

FIG. 3

FIG. 4

show whether the F.B. lies anterior or posterior to or level with, say, the femur. The technique is not used on the lateral views as this is unnecessary and raises difficulties in the shot-F.B.-film distances to overcome distortion.

In no way is this method intended to compete with the more elaborate methods of F.B. location, which no doubt are of first-class use in more leisurely circumstances.

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IMPERIAL CANCER RESEARCH FUND

The annual general meeting of the governors of the Imperial Cancer Research Fund was held at the Royal College of Surgeons on April 18, when the 42nd annual report was presented by Prof. H. R. Dean, the chairman of council. Appropriate mention was made of severe personal losses which the Fund has suffered in the death of Sir Humphry Rolleston, who was chairman for 16 years; Sir John Ledingham, who was a visiting research worker in the laboratories of the Fund; and Viscount Dawson of Penn, Sir Cuthbert Wallace, and Sir Thomas Barlow, all of whom had been closely connected with the Fund for a long period. The Fund during last year received in legacies over £48,000, a larger sum than in any previous year in its history. Subscriptions also increased by £827. Viscount Halifax was re-elected president and Sir Holburt Waring treasurer.

Scientific Work

A report was made on the work done by the seven members of the scientific staff and the four visiting research workers. Further study has been made of the retarding effect of sulphur inhibitors on carcinogenesis. Mr. H. G. Crabtree, working on the induction of tumours with pure chemical substances, has produced evidence that aldehydes and a number of other substances which specifically lower sulphur metabolism in cells cause not only a retardation but in certain conditions a reversal of the carcinogenic action of benzpyrene and dibenzanthracene.