A METHOD FOR EFFICIENT DRAINAGE OF THE KNEE-JOINT.

BY

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It will be generally conceded that, whether in civil or military practice, septic inflammation of the knee-joint is one of the most serious and anxious conditions that the surgeon can be called on to treat, involving as it does dangers both to limb and life.

The chief danger arises from the character and shape of the knee-joint with its various recesses and pouches, rendering efficient drainage in the ordinary position absolutely impossible.

With the limb in the usual dorsal position, the deepest part of the synovial cavity is in front of the popliteal space, much below the level of the suprapatellar pouch. Drainage is at present practically always effected by inserting a tube or tubes into the pouch above the patella, leaving much of the septic contents of the joint behind and between the femur and tibia with a tendency to make a way for itself to the surface by burrowing backwards into the popliteal space or along the course of the tendons in that region, upwards into the thigh, and downwards into the leg, or in both directions; this at the same time leads to septic absorption and blood poisoning from the imperfectly evacuated joint. Thus, in order to save life, the limb or the joint has not infrequently to be sacrificed.

Now, by changing the position of the limb, it is possible to make the suprapatellar pouch the dependent part of the joint, when by the very simple operation of inserting a tube into the top of the pouch the whole joint can be completely evacuated and purified, and if this is done sufficiently early, a speedy recovery may be anticipated with the joint mobility unimpaired.

Two changes of position will make the suprapatellar pouch dependent:

(a) The vertical position of the limb at right angles to the body with the patient in the dorsal decubitus, or

(b) The prone position of the body with the foot of the bed well raised.

In both positions the limb must be efficiently fixed on a splint, as fixation in inflammation of the knee-joint is only second in importance to drainage.

The first position can be easily maintained by a horizontal bar of wood arranged over the top of the bed, to which the limb is suspended by a pulley and weight. In this position dressings are easily carried out without moving the limb, and the pulley and weight enable the patient to be raised in bed for the use of the bedpan without pain or disturbance of the joint or dressings.

If for any reason the vertical position is inconvenient or difficult to carry out, the prone position can be adopted, the foot of the bed being raised and the limb slung from above by pulleys and weights for the thigh and leg.

This position also makes the suprapatellar pouch the dependent part of the articulation, and enables the joint to be completely evacuated of its fluid contents through a tube inserted a little way into that pouch.

As the prone position is irksome if prolonged, the patient, when once the joint has been emptied, may, if necessary, be turned on to his back, and the prone position adopted for from half an hour to an hour every four hours at first, and later about three times in the day, until the drain can be dispensed with.

When once the joint has been thoroughly evacuated of its septic contents, and if needful gently washed out with warm normal saline solution, the synovial membrane of the knee, like the peritoneum, is capable of taking care of itself. Long-continued drainage is very seldom required, and usually a movable joint will be obtained.

THE Minister of Munitions has added acetic acid of all strengths to the war material to which Regulation 30 A of the Defence of the Realm Regulations applies. Inquiries regarding this order should be addressed to the Director, Chemical Section, Trench Warfare Supply Department, St. Ermin's Hotel, Westminster, S.W.1.

FIVE HUNDRED CONSECUTIVE CASES OF ACUTE GONORRHOEA TREATED WITH VACCINES;

AND

A NOTE ON THE ELECTRO-CHEMICAL METHOD.

BY

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AFTER treating a large number of cases of gonorrhoea, it seemed that the only way of eradicating the disease was to attack it through the blood, in the same way as with salvarsan in syphilis. The administration of many thousand injections of a particular stock vaccine (Staphgon) prepared at this hospital brought to light one most encouraging fact, namely, the appearance of a visible discharge from the urethra or signs in the urine shortly after the injection of a moderate dose when the cure was not complete, or in other words, when the patient was not free from active gonorrhoea. This is referred to in Colonel Harrison's manual on the subject as one test of cure, and in my experience it has proved very valuable.

The return of the discharge can only be due to gonococci reappearing at the surface of the urethral mucous membrane, and it is reasonable to suppose that the vaccine has reached them through the blood stream, rendered them uncomfortable, so causing their migration from the deeper tissues to the surface. This, then, is a means of attacking the gonococci through the blood stream in the acute stage of the disease, and of penetrating tissues which the irrigating fluid cannot reach. By giving suitable doses of vaccine the hostility of the blood is increased to a maximum, whilst irrigation washes away the inflammatory products. The administration of a vaccine as a routine form of treatment in the acute stage of gonorrhoea has not up to the present been generally adopted, and I have thought it worth while to bring the results to notice. Both in regard to dosage and the period of time between successive injections experimental evidence had to be accumulated, and the effect produced by varying these two factors was observed in several hundred cases before finally deciding in favour of the method now to be described, which differs considerably from that usually adopted in the chronic stage.

REPORT ON FIRST FIFTY CASES.

The results of the first series of fifty consecutive cases are quoted below. Most of the cases to be dealt with have been severe, and, owing to the circumstances in which the disease has been contracted, the patients have not reported until obliged to do so. In nearly every case there has been a discharge for at least a week before any local treatment has been commenced, and the disease consequently well established. Briefly, the pathological condition in such cases is that the gonococci have invaded the greater part of the urethra and are no longer on the surface alone, whence they can be washed out by an irrigating fluid, but have penetrated the mucous membrane and lie below the surface, as well as in the glands of Littre and the various lacunae. Once this has occurred it becomes a matter of much greater difficulty to eradicate the disease, for the irrigating fluids merely wash away the accumulated discharge and do not penetrate into these side-channels of the urethra, within which the organisms remain indefinitely. The discharge may disappear entirely under ordinary conditions of living, only to return if the patient take a considerable amount of exercise or indulge in alcohol. This is due to a reinfection of the urethra by gonococci from these glands.

The rationale of the method described is as follows:

1. To affect the blood as early as possible, with a view to

- a. Antagonizing the gonococcus,
- b. Diminishing the likelihood of complications.

2. To get as big an action as possible in the shortest time without inducing a negative phase.

It has been proved by the work of Eyre and Stewart and others that a gonococcal vaccine increases the power of the blood to destroy the living organisms, and that one positive phase can be superimposed upon another by giving suitable injections at the proper intervals, thereby obtaining the maximum effects.