AN OPERATION FOR FIXING MOVABLE KIDNEY.

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It is not claimed for this operation that it exactly replaces the kidney in its normal position. The kidney is probably fixed a little lower than normal, but it is slung up by its own capsule, and for all practical purposes it is in excellent position.

In the method about to be described use is made of the strong, thickened upper border of the lumbar fascia which stretches from the transverse process of the first lumbar vertebra (T) to the outer end of the last rib—the ligamentum arcuatum externum. This strong, thick band (LAE in drawing) is very easily demonstrated from the incision for reposing the kidney, and is more horizontal than the last rib, besides being below the lower limit of the pleura. That portion of the ligament which is beyond the outer border of the quadratus lumborum (QL) is made use of in this operation.

Fig. 1.—The kidneys from behind. 10, 11, 12, ribs; T, transverse process of first lumbar vertebra; LAE, ligamentum arcuatum externum; QL, quadratus lumborum; L, liver; S, spleen; SI, small intestine covered by peritoneum; RK, right kidney; LK, left kidney.

Operation.—An incision about 4 in. long is made from a little to the vertebral side of the angle between the last rib and the erector spinae about a finger-breadth below the rib, to obviate all risk of injury to the pleura. The direction is downwards and outwards towards the anterior superior iliac spine. Deepening the incision the following structures are cut: The latissimus dorsi, a few fibres of the serratus posticus inferior, the external oblique, the internal oblique, the transversalis, and the thin transversalis fascia. The last structure is first nicked close to the vertebral end of the incision to avoid wounding the peritoneum and intestine (S I). The kidney is then sought for by carefully tearing through the perirenal fat. It is pushed up to but not out of the wound, and a small puncture is made in the true capsule, so that a probe or director may be insinuated and a large blister gradually separated from the posterior (vertebral) surface and outer border of the kidney (see Fig. 2). This is the portion of the kidney that normally looks backwards, and, by peeling the capsule off here, the organ is kept as nearly as possible in its proper place. A horse-shoe-shaped flap of capsule can be separated, so that the base is just above the centre of the horizontal axis of the kidney. One blade of a blunt-pointed pair of scissors is now

inserted under the blister, and the margin cut in the form represented in Fig. 2. To preserve the inner tilt of the upper border of the kidney, the inner limb of the incision may be made a little longer than the outer, as represented in the diagram (Fig. 2).

Fig. 2.—Diagram of right kidney and flap.

The finger is now insinuated under the ligamentum arcuatum externum (LAE), and the tissues on its deep surface peeled up, so as to get rid of the pleura should it descend lower than usual.

While the finger thus protects the pleura, an incision is made about a third of an inch or more above the lower margin of the ligament (LAE), and parallel to its fibres for the whole available distance between the quadratus lumborum (QL) and the tip of the last rib (12). The last dorsal nerve, which can be seen at this stage of the operation, should be avoided.

A pair of Kocher's artery forceps is pushed through the slit thus made, and the free end of the separated capsule is drawn through, spread out, and stitched down to the ligament and neighbouring parts with formalin catgut or silk. The kidney is thus slung as on a pulley. Other stitches may be used to unite the capsule at the margins of the raw surface to the lumbar fascia at the sides, and below if considered necessary. The wound is sutured in layers, formaline catgut being used for the deep stitches, and silkworm gut for the skin.

I have performed this operation on the cadaver, and three times so far on the living subject. It is easy to perform, and, so far as my short experience of it goes, it fixes the kidney effectually.

For the accompanying drawing and diagram I am indebted to Mr. Henry Hanna, M.B., late House-Surgeon to the Royal Victoria Hospital, who assisted me at two of the operations.

A NOTE ON THE TREATMENT OF THROMBOSIS OF THE SUPERFICIAL VEINS OF THE LOWER EXTREMITIES.

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THROMBOSIS of the superficial veins of the lower extremity is a very common and a very tiresome complaint. The patient is laid up in bed for at least three weeks. Not infrequently, just as everything appears to have cleared up, there is a recurrence of the complaint in another segment of the vein, and this necessitates rest for three weeks more. There is always the risk of pulmonary embolism, or of the thrombus extending into one of the deep veins through a communicating branch, and causing a condition of venous congestion that persists off and on for life. Even when there is no special degree of phlebitis, the thrombosed veins are very tender and painful if touched; and as the veins are seldom obliterated by organization of the thrombus, a patient who has had one attack lives in a state of constant apprehension that some trivial blow or slight over-exertion may at any moment excite another.

The thrombosis may be limited to one venous segment, or it may involve several, and occasionally it occurs on both legs at the same time, with more or less symmetry; but, unlike the thrombosis of the deep veins of the thigh that is so frequent a complication of abdominal operations and such complaints