THE CREMASTERIC VESSELS AND THE REPAIR OF INDIRECT INGUINAL HERNIA

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It has been generally accepted by most surgeons that a repair is a necessary step in the operative treatment of inguinal hernia in the adult. High ligation of the peritoneal sac alone will not infrequently produce a cure; but the internal ring is dilated by the hernial sac and its contents, and after simple herniotomy it remains as a vulnerable area in the abdominal wall. It is this weakness that may account for the high percentage of indirect herniae as well as their early reappearance after operation.

All rational repairs, therefore, are particularly directed towards reinforcing this deficiency, which reveals itself at operation as a hole in the fascia transversalis. It is proposed here to draw attention to a manoeuvre which is designed to display this deficiency in its entirety.

The Cremasteric Vessels

The inferior epigastric artery is a branch of the external iliac artery arising immediately proximal to the inguinal ligament; it passes upwards behind the fascia transversalis. About 1 cm. from its origin, and as it lies behind the inguinal canal, the inferior epigastric artery gives off the cremasteric artery. This small but constant vessel courses laterally deep to the fascia transversalis and then curves sharply forwards to enter the cord deep to the internal spermatic fascia, whence it divides into branches to supply the coverings of the cord (Fig. 1). The artery is accompanied by a single vein which drains into the inferior epigastric venae comitantes.

Indirect Inguinal Hernia and Cremasteric Vessels.—The hernial sac enters the cord as a diverticulum and lies antero-lateral to the structures of the cord. The internal ring is dilated by the viscera entering the peritoneal sac and the cord increases in volume. As a result of these changes the

FIG. 3

FIG. 4

FIG. 5

FIG. 6

by the presence of the hernia. These vessels and their covering of fascia virtually constitute a ligament (a structure which might be termed the cremasteric ligament) which prevents the full lateral displacement of the cord and obscures the actual size of the deficiency at the internal ring (Figs. 4 and 5).

Ligation of the Cremasteric Vessels in Repair of the Hernia.—After the cremasteric vessels covered by their fascia have been exposed they are divided between silk ligatures. With the division of this "ligament" the cord can be displaced laterally, sometimes as much as 2 cm. Moreover, the whole of the weakened area in the fascia transversalis is exposed and is readily repaired (Fig. 6).

Summary

It is submitted that ligation and division of the cremasteric vessels is a necessary step in the repair of the indirect inguinal hernia. These vessels and their surrounding fascia constitute a ligament which tethers the cord to the medial boundary of the internal ring and prevents its full and essential displacement to the lateral boundary. The deficiency at the internal ring is neither satisfactorily visualized nor repaired until it has been fully exposed by this procedure.

FIG. 1

FIG. 2

cremasteric artery runs a relatively shorter course before curving into the cord (Fig. 2). In long-standing herniae the artery is slightly enlarged.

Repair of Indirect Inguinal Hernia.—After the cord has been exposed and its coats incised the hernial sac is separated and is ligated at the point where it arises from the peritoneum (Fig. 3). With the removal of the peritoneal sac the volume of the cord is correspondingly decreased. The cord is retracted laterally and the posterior wall of the inguinal canal is exposed. Lateral to the inferior epigastric vessels lies the defect, and to perform an effective repair

"When trying to find out whether animals are conscious of pain, one may easily be misled by their reaction or lack of reaction to injury. The best evidence is derived from the resemblance between the sensory and nervous systems of some animals and the corresponding systems in ourselves. Evidence of this kind suggests very strongly that at least the higher vertebrates are capable of suffering. It is much harder to obtain evidence as to whether invertebrates are conscious, but it is reasonable to suppose that this is so in those forms in which the nervous system is complex and highly integrated (for instance, the crab and octopus). It is very unlikely that such a creature as a sea-anemone is conscious."—*The Scientific Basis of Kindness to Animals*, by J. R. Baker (U.F.A.W.).