

part. Weakness of its attachment to the scrotum, deficiency of its muscular action, and attachment to the superficial tissues of the groin in the neighbourhood of the external abdominal ring, have all been suggested as possible causes, and the latter condition is often noticed during operations. It is also very probable, though, so far as I am aware, it has not been verified by actual dissections, that there may be some abnormality about the upper attachment of the gubernaculum to the testicle. Normally it should be connected with the lower end of the testis and epididymis, but should this be weak or absent, and should the gubernaculum end above in the extraperitoneal tissue, or should its main connection be with some other structure, it is manifest that the normal descent of the testicle would be jeopardised. The fact that the imperfectly descended testicle generally shows, also, many signs of arrested development is decidedly in favour of some abnormal process occurring here, and it is conceivable that some error in the formation of the gubernaculum in this situation might, by tension or pressure upon the vessels, interfere with the development as well as with the normal process of descent.

A number of other conditions, among which are the following, have been described or suggested as possible causes of imperfect descent. The long mesorchium, which is generally present, may allow the testicle to hang so freely in the peritoneal cavity that it may fail to enter the inguinal canal, or may only do so at such a late stage that complete descent is impossible. However, the persistence of the mesorchium, as will be explained later, may be due to the absence of the normal pull and guidance of the gubernaculum. Peritoneal adhesions, the result of intrauterine peritonitis, may, in some cases, unduly limit the mobility of the testis; it is, however, very unusual to meet with any traces of these during an operation. Also, shortness of the vas deferens and the veins of the spermatic plexus have been suggested as causes; though these are sometimes found, they are more likely to be the effect than the cause of imperfect descent. The same is probably true with narrowness of the inguinal canal and poor development of the scrotum, both of which have also been regarded as causes. Over-action of the cremaster muscle seems