

external ring is badly developed, this can be enlarged and stretched. In those rare cases where the whole canal is undeveloped, the testicle will be entirely within the abdominal cavity, and it is unlikely that transplantation will be feasible.

(7) *Undue Shortness of the Spermatic Plexus of Veins*.—This is unusual, and must be distinguished from the presence of the fascial bands which have been mentioned above.

(8) *Undue Shortness of the Vas*.—As a rule, this structure is lax and can usually be drawn down. For it to be so short as to prevent transplantation is rare.

It will be noticed that, of the above, the first six causes can be overcome. The last two are, however, more serious; for any division of the veins or injury to the vas will certainly be followed by atrophy of the testicle.

Physiology of the Imperfectly Descended Testicle.

It is certain that, in the great majority of cases, the imperfectly or abnormally descended testicle is functionless, at any rate as regards spermatogenesis. This is true in those cases where the testicle is of normal size, or but little smaller, as well as in those where it is small, soft and obviously atrophied. Though of comparatively small importance where only one testicle is concerned, it is a serious matter where the condition is bilateral, for, under these circumstances, the patient will probably be completely sterile. But, though the function of spermatogenesis is absent, that of producing the internal secretion necessary for the development of secondary male characters is generally, but not always, normally carried out. That the spermatogenic function is lost is shown by the fact that such persons are unable to beget children, and is also confirmed by the histological examination of retained organs after removal.*

* Mr. L. B. Rawling, *Practitioner*, 1908, Vol. LXXXI., gives an account of a series of cases of imperfectly descended testicle, 50 of which were treated by excision. Of these 27 were examined microscopically, with the following results:—

15 cases. The testicle was atrophic, with increase of fibrous tissue, with imperfect epithelium, and with deficient or absent spermatogenesis.

10 cases. But little alteration from the normal; definite spermatogenesis present.

1 case. Tuberculous disease.

1 case. Malignant.

These figures indicate that the spermatogenic function is not so generally lost as is usually supposed.