A Case of Undescended Testis

Gako JIMBO, Toru NISHIYAMA and
Masaaki NAGASAWA
Department of Anatomy, Yamaguchi Medical School, Ube
(Received June 7, 1962)

Embryologically, it is normal that the testis which is produced in the abdominal cavity descends gradually as the embryo grows and is located in the scrotum in the case of after birth. In some cases the testis does not move into the scrotum perfectly, but stays in a certain part of the abdomen. It is called undescended testis. The undescended testis is divided into two kinds—retentio testis inguinalis and retentio testis abdominalis according to its place and the latter cases are found more frequently. The undescended testis is considerable among congenital diseases of testis. According to Okoshi (1954) with the statistics of urinary clinic of Tokyo University Hospital for five years (1946–1951), 25 cases of the undescended testis are found out of 10756 patients (0.23%), while Johnson's (1939) statistics shows 544 cases out of 31 609 patients of 7–17 years of age (1.78%). According to Kusu, the undescended testis is found 4% in children under 15 years and 0.25% in grown-ups. Regarding to the side where the testis does not descend, no difference can be seen, but the statistics by Thompson and Hecke shows 281 cases of undescended testis on both sides and 298 cases on one side. There are detailed researches on undescended testis by Fukui (1923) and Cooper (1929) etc, and many clinical reports by now, but as for the histological observations of undescended testis there are only few reports by Saito (1931) and Dohi (1923) and other people. Recently we chanced upon a case of undescended testis at the exercise of anatomical dissection and we should like to report it here.

CASE

44 year old man died of psychopathy.

Macroscopic observations

The left testis is located in inguinalis (Fig. 1) 8.4×5.2 cm, adhering to the surrounding tissues and its elasticity is solid. It adheres to tunica vaginalis communis closely. If we remove tunica vaginals communis, we can see the extension of many blood vessels, crawling meanderingly, surrounding the spermaduct, and the blood vessels are gathered up like a ball in the upper part of the epididymis, then running into the testis and epididymis. A spermaduct crawls meanderingly in some parts, but knots and infuration are not noticed. (Fig. 2). The testis (including epididymis) is $5.3 \times 2.5 \times 1.5$ cm in size and 2.2 gr. in weight. The right testis is located in scrotum, $5.4 \times 2.7 \times 1.6$ cm. in size and 12.5 gr. in weight. No abnormal observa-

tion is found in the spermaduct, blood vessels and other parts. The penis and scrotum are full-grown.

Microscopic observation

1. The left side testis is undescended testis and epididymis.

Among ducts deference, we can plainly distinguish spermiogonium, spermatocyte, spermatid from each other, and many spermatozoon are noticed, which shows no disturbance in producing spermatozoon. The degenerate retrograde figure is not noticed in spermiogonium and spermatocyte. Sertolis cells lie between them. Neither increase of interstitial connective tissue nor infantile connective tissue cells and wandering cells are seen between them. We notice many figures of enlarging blood vessels and interstitial tissues saturated with blood. Epididymides ducts and ductuli are normal. The blood vessels extend and they are filled with blood. The enlargement of many blood vessels which are filled with blood are seen in the upper tissues of epididymis. Lymphatic glands are also filled with lymph.

2. The right testis and epididymis

Spermiogonium, spermatocyte and spermid can be distinguished plainly but there are no degenerative figures. We notice spermatozoon in the cavity. It means the spermatogenesis. The increase of interstitial connective tissues, infantile connective tissue cells and wandering cells can not be seen, but Sertolis cells and interstitial cells are found. No pathological observation is found in epididymis.

DISCUSSION

According to Cooper (1929) Mac Collum (1935) and Moore (1940), undescended testis generally weakens in creating spermatozoon process;—therefore, the spermatid atrophies remarkably and is not fully grown, besides, specialization is seen and in most cases Sertolis cells are not seen. In this case we notice the full specialization of spermatozoon cells and the reproduction of spermid and Sertolis cells. This is an exceptional case. Cooper says "Interstitial cells are not affected by the abnormal site of testis." This case agrees with it. It is said that there are many cases of increase of interstitial connective tissue, but it is contrary in this case. In spite of the undescended testis, the tissue figure is normal and does not cause propagation of interstitial connective tissue, and yet apparently it swells like tumor; for the blood vessels in epididymis look ball in extension and meandering, we suppose, is the cause of undescended testis.

CONCLUSION

This 44 year old man with left retentio testis inguinalis died of psychopathy. Microscopical observation is quite normal, but the blood vessels are shaped abnormally like tumor in the upper part of the epididymis. This is the cause of the

undescended testis.

REFERENCES

1. Cooper : The histology of the retained testis in the human subject at different ages, and its comparison with scrotal testis. *J. Anat.*, **64**: 5–27, 1929.
2. Shoji Dohi : A case of undescended testis. *Nihon Ikadaigaku Zassi*, **2**: 39–46, 1923.
3. Nobutate Fukui : The effect of heart upon testis, *Nishin-igaku*, **10**: 1801–1835, 1923.
4. Johnson : Cryptorchidisms. *J. A. M. A.*, **113**: 25–27, 1959.
5. Takamitsu Kusunoki : *The clinical study of the urinary organs.* (Kanehara bookstore) 179–182, 1955.
6. Mac Callum : Clinical study of the spermatogenesis of undescended testicle. *Arch. Surg.*, **31**: 209–300, 1935.
7. Moore : Cryptorchidisms. Preliminary report. *J. Urology*, **45**: 204–207, 715–735, 1940.
8. Masaaki Ogoshi : *The medical treatment of undescended testis.* Tokyo (Kanehara bookstore) 1–2, 1954.
9. Miki Saito : A case of undescended testis. *Nihon Medical school Magazine*, **46**: 1931.
10. Thompson, W. Q. S. and Hechel : Undescended testis. *J. A. M. A.*, **112**: 397–403, 1939.

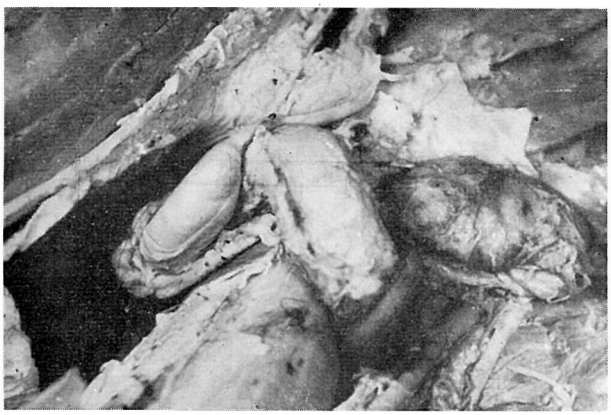

Fig. 1

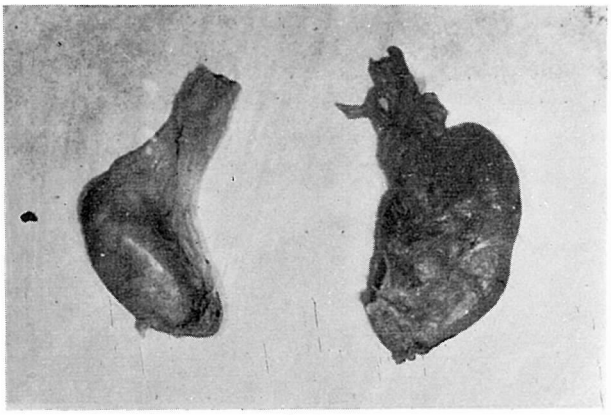

Fig. 2

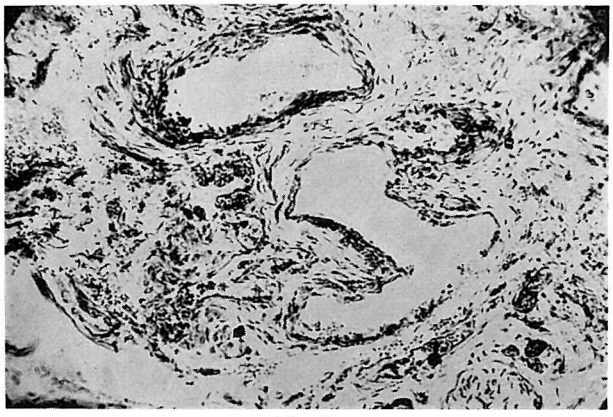

Fig. 3

Fig. 1. Normal testis is shown on the right side and undescended testis which is located in inguinal region is shown on the left.

Fig. 2. Right side: normal Left side: undescended testis.

Fig. 3. Microscopical observation of undescended testis. It shows the enlargement of the blood vessels and filling of blood.