Seminoma Arising in Undescended Tests

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SUMMARY

A case of seminoma arising in one of bilaterally undescended testes is described and a survey of the incidence and prognosis presented.

CASE REPORT

On 6.11.79 a young Zambian male, unmarried, working as secretary to a private doctor in Kitwe came to Wusikili Hospital. He gave a previous history of perforated duodenal ulcer in 1976. He complained of a painless enlarging swelling in the right lower abdomen, noticed since February of the year, i.e. 10 months duration. On examination, there was a firm slightly tender swelling 10 cm in diameter above the right pubis, not fixed to the anterior abdominal wall. The scrotum was completely empty.
and no testis palpable in either inguinal canal. Penis was normal size, and he said he had normal erection and ejaculation. All other male characteristics were normal. Electrolytes, urine and blood picture normal. IVP showed a mild dilatation of the right renal pelvis and ureter.

On 12.11.79, operation was performed (D.E.) through a lower right paramedian incision and an extra-peritoneal mass 10 x 12 cm size adjacent to but not adherent to the bladder was removed. He recovered uneventfully.

PATHOLOGY (Dr. D. Maweu, M.B., Ch.B., M.R.C.Path.)

MACRO

A lobulated pink mass about 12 cm in longest diameter, showing soft pinkish white tissue with scattered areas of necrosis. A thin fibrous tissue capsule appears intact.

MICRO

Sections from this specimen show lobules and cords of undifferentiated malignant tumour cells separated by fibrous septa infiltrated by round lymphocyte-like cells. No trophoblastic elements or features suggesting presence of other germ cell tumours, are noted.

The features noted suggest a seminoma in an undescended testis. Although the capsule appears intact in the sections examined, spread beyond it is a possibility.

In view of this report, and as radiotherapy (the ideal form of post-operative treatment) is unavailable, he was given a course of Cyclophosphamide 1.0 gm and Vincristine 2 mgm weekly for 4 doses. White blood count normal afterwards.

On 20.3.80, through a left low transverse incision (E.R.) the left testis was found near the bladder, fully mobilised and brought down and anchored in a dartos pouch in the left side of the scrotum. This testis though slightly smaller than usual appeared normal otherwise. At follow up on 25.4.80 the testis lay comfortably in the scrotum. A seminal analysis on this date showed a complete absence of spermatozoa as would be expected. He will be followed up naturally for some years.

Discussion

a. Incidence:

Testicular tumours are rare and the quoted rates vary from country to country. In U.K., the incidence and death rate is found to be bi-modal with peaks between 20-40 years and in the elderly. Collins and Pugh (1964) reported an annual overall registration of 2.3 per 100,000 males of all types of testicular tumour. From these figures it was calculated that 550 to 600 new cases of testicular tumour occurred annually in U.K. The latest figures from the South Metropolitan Cancer Registry (SMCR 1974) covering a male population of over 3 million reveals a significantly raised incidence with rates of 2.74 per 100,000 males for 1963-66, and 3.76 for 1967-71.

Another convenient way to consider the incidence is to relate it to that of other forms of malignant disease. In U.K. 0.5 to 0.6% of male cancer deaths are due to testicular tumour, and between 1 and 2% of male malignant tumours arise in the testis. (Pugh 1976).

Mustofi and Pierce (1973) state that tumours of the testis are specially rare in the Black populations of both Africa and America but no reliable statistics are traceable. Even in white races the incidence varies from 4.5 per 100,000 males in Denmark (Clemmessen 1968) to 0.9 per 100,000 in Finland (Teppo 1973). This may be due partly to genetic, partly to environmental factors, though other influences are probable as well.

b. Relation to Maldescent of Testis:

The Testicular Tumour Panel and Registry of the Pathological Society of Great Britain and Ireland

Lobules of Seminoma cells separated by fibrovascular septa with lymphocytic infiltration. (Magnification x 250 – Haemotoxylene – Eosin.)
record that in the years 1958-67, out of a total of 1,812 cases of reported testicular tumours 123 were in undescended testes, and 46 of these had previously either an undescended testis (the tumour occurring in the normal testis), or had had an orchidopexy. Whitaker (1970) estimates the risk of the cryptorchid developing a tumour as thirty-five times greater than in individual with descended testes. He found that 1300 out of 14000 testicular tumours reported in the literature were in cryptorchids. He considered that orchidopexy if carried out early enough (before puberty) might lessen the risk of malignancy. The reason why the undescended testicle may unduly prone to malignancy is not known (Pugh 1976). Also in the Testicular Panel’s series 19% of the patients with undescended testis developed a tumour in the normally descended testis. This also has to be taken into account and may indicate a common factor which influences both maldevelopment and neoplasm.

c. Relative Frequency of Testicular Tumours:

The Testicular Panel registered 3196 specimens in the years 1958-73 with the following results (not given in detail here. Pugh 1976).

Seminoma accounted for 39.6% of total testicular tumours
Teratoma ................................................................. 31.7% = 91% approx.
Combined tumours ................................................. 13.5% of
Malignant Lymphoma ............................................... 6.7% of
All others including metastases ................................. 8.6%

Out of 729 cases of seminoma, 70 had undescended testis, and 9 of these developed seminoma in the normally placed testis.

d. Place of Biopsy in Testicular Tumour:

Blandy et al (1970) state categorically that biopsy has no place in this condition. The Testicular Tumour Panel is in full agreement with this (Pugh 1976). Mostofi and Price (1973) say that orchidectomy is the universally accepted method for diagnosis. A clinical diagnosis followed by orchidectomy is therefore the primary procedure of choice.

e. Prognosis of Seminoma:

The Testicular Panel reports a 3 year corrected survival rate (CSR) of 90% of those treated by orchidectomy and post-operative radiation.

A number of issues arise out of these facts and figures which should be stressed. One is the necessity for accurate registration of all testicular tumours in Zambia to get an idea of their frequency, which is probably a good deal higher than we realise. Another is the undoubted higher incidence of malignant change in the maldescended testis (or even in the normally placed one if the other is undescended) and the necessity to advise early orchidopexy. Finally it is necessary to be aware of this condition and to diagnose it on clinical grounds without performing biopsies on malignant testes.

REFERENCES


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