SEMINOMA OCCURRING IN NON-TWIN BROTHERS

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SYNOPSIS

Among the many publications in the literature on the familial incidence of testicular tumours, there are 7 case reports of these tumours occurring in non-twin brothers. The authors present the 8th case report in this article, and state the need to investigate the family history of any patient presenting with a testicular tumour.

Testicular tumours are relatively uncommon and account for less than 1% of all malignancies (Lynch, 1967). In the U.S.A. the incidence is estimated at 2.2/100,000 (Mostofi, 1973). In Singapore over a 5-year period from 1968 to 1972, only 37 cases were reported (Singapore Cancer Registry).

Its extreme rarity among Negroes both in the U.S.A. as well as in the African continent raises the possibility of a genetic factor (Cancer Incidence in Five Continents, 1970). This is also suggested from an interesting study of familial malignant neoplasms in an inbred Dutch community by Lynch & associates, in which 4 cases of malignant testicular tumours were demonstrated (Lynch et al, 1974).

Kademian & Caldwell reviewed the literature on testicular tumours occuring in closely related family members and noted that there had been 6 reports of testicular tumours occurring in non-twin brothers. They added their own report of seminoma in 2 brothers, bringing the total number of such reports to 7 (Kademian & Caldwell 1976).

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The reports referred to are shown in the following table:

Reference	Age at onset		Type of Tumour
1. Raven, R.W.: Lancet 2:870 (1934)	18	?	
	38	L	Seminoma
2. Lownes, J.B. and Leberman, P. Urol. & Cutan. Rev. 43:205 (1939)	32	L	Spermatocytoma
	53	R	Teratoma
3. Hutter, A.M. Jr., Lynch, J.J. and Shnider, B.I. J.A.M.A. 199:1009 (1967)	32	L	Terato Carcinoma
	31	R	Seminoma
4. Young J.A. and Bohne, A.W.: J. Urol., 107:1000 (1972)	37	L	Seminoma
	45	R	Seminoma
5. Gulley, R.M., Kowalski, R. and Neuhoff, C.F.: J. Urol. 112:620 (1974)	31	L	Embryonal Carcinoma
	34	R	Embryonal Carcinoma with Seminoma
	27	R	Seminoma
	40	?	
6. Klepp, O., Host, H., Klepp. R., Lien, H. and Tausjo J.: Tidssk. Nov. Laegeforen 1:23 (1975)	49	L	Embryonal Carcinoma
	52	L	Embryonal Carcinoma
7. Kademian, M.T. and Caldwell, W.L. J. Urol. 116:380 (1976)	29	L	Seminoma
	35	L	Seminoma

We now add our own cases which make up the 8th report of Seminoma occurring in non-twin brothers.

Case 1:

C.P.T., a 32 years old Chinese man was hospitalised in December 1971 for 16 months history of a progressive painless swelling of his right testis. Four days prior to his admission the patient experienced acute excruciating pain at his right testis. Examination revealed a tender enlarged right testis, twice the normal size. There were no other masses in his abdomen or inguinal regions. A right orchidectomy was performed. At operation, the right testis measured 9 × 8 × 5½ cm. The whole testis was replaced by tumour and the cord was uninvolved. The histology was subsequently reported as a seminoma. Chest x-ray and bipedal lymphangiogram showed no abnormality.

Three weeks after the operation the patient was started on radiotherapy. He was treated on the Cobalt 60 teletherapy machine with the inverted Y field which encompassed enbloc the para-aortic, iliac and inguinal nodes. The patient received a mid-line dose of 3268 rads in 6 weeks. He also received a supplement incident dose of 1100 rads in a week to the right inguinal region using the Caesium teletherapy machine. Except for transient neutropenia which necessitated suspension of treatment for several days, the patient took the whole course of treatment well. The patient has remained well since with no evidence of disease for 5½ years. In June 1977 a peripheral blood ohromosome culture was done. This revealed no chromosomal abnormalities.

Case 2:

C.T.M., elder brother of C.P.T. was aged 43 in February 1976 when he presented with a history of painless swelling of right testis for 1 year. There was no past history of trauma.

A right orchidectomy was performed on 24.2.76 and a firm enlarged testis measuring 6 × 3 cm was removed. The histology showed a seminoma. A bilateral lymphangiogram was done and this revealed some filling defects in the pelvic and para-aortic nodes up to L2.

A course of radiotherapy was given from 8.3.76 to 17.5.76 with Cobalt teletherapy to the pelvic, inguinal

and para-aortic regions. A tumour dose of 3000 rads was given with occasional interruptions because of leucopenia.

A peripheral blood chromosome culture showed a normal male karyotype. The patient is being regularly followed up and the last chest x-ray done on 23.3.77 showed no evidence of metastases.

Comments

The study of familial incidence of malignant tumours is useful in elucidating some of the causes of these tumours. It also points to the need for investigating other members of the family who may be predisposed to the condition. The report by Gulley of 4 brothers in one family who developed testicular tumours is noteworthy.

In the family which we have reported above, there is a third brother, the youngest, who is said to be normal. He certainly requires investigation and surveillance. However, this is not feasible at the moment, as he has left the country.

REFERENCES

1. Cancer Incidence in Five Continents Vol II—International Union Against Cancer Ed. R. Doll, C. Muir and J. Waterhouse. Springer-Verlag Berlin, Heidelberg, New York, 1970.
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4. Lynch, H.T. Hereditary factors in carcinoma—Recent Results in Cancer Research Springer-Verlag Berlin, Heidelberg, New York 1967, p 61
5. Lynch H.T., Krush, A.J., Mulcahy, G.M. and Reed, W.B.: Familial occurrences of a variety of promalignant disease and uncommon malignant neoplasms Cancer 33: 1474, 1974
6. Mostofi, F.K. Testicular tumours. Epidemiologic, etiologic and pathologic features Cancer 32: 1186, 1973
7. Singapore Cancer Registry—Personal communication from K. Shanmugaratnam, 1977.