Testicular tumours in Trinidad

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Testicular tumours are reported to be rare in Negroes and Indians. Our experience of testicular cancer in a predominantly Negro and Indian population in Trinidad confirmed this observation. Paratesticular sarcomas are comparatively more frequent in the Negro; though the reason for this is unknown, it is possible that genetic and or environmental factors predispose the adnexal structures to neoplastic change, particularly in the Negro.

Testicular cancer is rare and its incidence varies in different populations[1]. Data from Waterhouse *et al* show that tumours of the testis are relatively common in Caucasians, but that the disease is rare in Negroes and Indians[2]. We have reviewed our experience of testicular tumours in Trinidad, whose population is predominantly Negro (41%) and Indian (40%), with less than 1% Caucasian.

Materials and methods

A retrospective review of the surgical pathology register of the Port of Spain General Hospital, Trinidad, over a period of 12 years (1972–1983) revealed 13 cases of malignant testicular tumours. The relevant clinical details were noted from the patients' charts and pathology files. Histological material from these cases was re-examined to verify the diagnosis, using special stains which included periodic acid schiff (PAS), phosphotungstic acid haematoxylin (PATH) and reticulin stains to supplement the routine haematoxylin and eosin preparations.

Results

Testicular neoplasms comprised about 0.75% of all malignant tumours in males, with a crude annual incidence of 0.3 per 100,000 males.

Details of the 13 patients with testicular cancer are summarised in Table 1. The presenting symptom was a painless scrotal mass in all cases, and the average duration of symptom was 5 months (range 1–18 months) before diagnosis. None of the patients had a history of testicular trauma, and none of the tumours occurred in undescended testes.

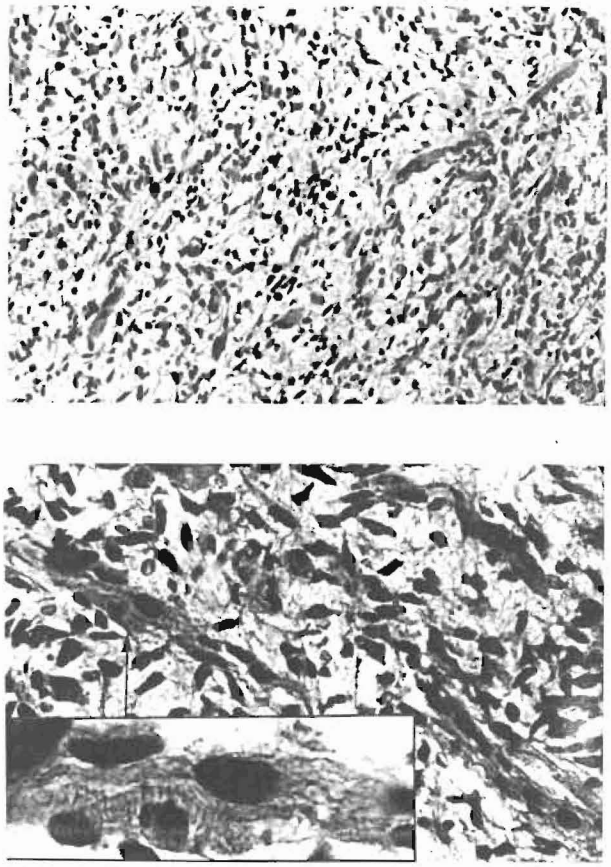

Fig 1 (*a*) Photomicrograph of paratesticular rhabdomyosarcoma from case 13. (H&E×250) (*b*) Higher magnification (H&E×500). Inset shows cross striations. (H&E×1200)

7 patients had germ cell tumours: 3 seminoma; 3 embryonal carcinoma (2 infantile and 1 adult type); and one was a mixed germ cell tumour showing teratoma with seminoma. There were 6 non-germ cell tumours: 5 paratesticular rhabdomyosarcoma (Fig 1a, b); and one was a malignant non-Hodgkins lymphocytic lymphoma initially presenting as testicular neoplasm with no extratesticular involvement at the time of diagnosis.

The patients were treated on conventional lines by orchiectomy followed by radiotherapy and/or chemotherapy. All the patients with paratesticular rhabdomyosarcoma had metastatic disease at presentation, and all but one died of the disease despite all modes of therapy.

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TABLE 1
Case details of testicular tumours in Trinidad (1972–1983)

Case no.	*Age (years)*	*Race*	*Side*	*Histology*	*Survival time*
1	7 mo.	Negro	left	Embryonal ca	7 months, died with disease
2	10 mo.	Negro	right	Embryonal ca	6 months, died with disease
3	41	Indian	left	Seminoma	48 months, died with disease
4	43	Negro	right	Seminoma	Not known
5	53	Negro	right	Seminoma	Not known
6	21	Indian	left	Embryonal ca	7 months, died with disease
7	29	White	right	Seminoma & teratoma	Not known
8	63	Negro	right	Non-Hodgkins/lymphoma	3 months, died with disease (widespread)
9	21	Negro	left	Rhabdomyosarcoma	13 months, died with disease
10	28	Negro	right	Rhabdomyosarcoma	16 months, died with disease
11	19	Negro	right	Rhabdomyosarcoma	36 months, died with disease
12	21	Negro	left	Rhabdomyosarcoma	24 months, died with disease
13	18	Negro	right	Rhabdomyosarcoma	32 months, alive with disease

Discussion

In Trinidad, as in many developing countries, there is a lack of full statistical information on many diseases, and this causes difficulty in assessing the true incidence of testicular cancer.

Based on the estimated population, the crude annual incidence of testicular tumours was 0.3 per 100,000 males, which concurs with the generally accepted low incidence in Negroes and Indians[2]. In the predominantly Caucasian population of Europe and the USA, the incidence of testicular tumours is about 2 per 100,000 males[3,4], whereas the incidence is less than 1 per 100,000 males in India and Africa[5]. Reporting from Uganda, Davis *et al* found only 3 cases of testicular tumours during the period 1897–1957[6]. Comparing different populations, Tulinius *et al* noted that testicular tumours occurred twenty times more frequently in Whites than in Negroes[7].

The reason for the lower incidence of testicular tumours in Blacks and related people is unknown. The lower incidence of cryptorchidism in Blacks has been suggested as a reason[8], but this has been disputed[9]. Though cryptorchidism is not rare in our population, we have not seen cancer developing in an undescended testis. Socio-economic differences have been postulated to explain the lower incidence of this neoplasm in Blacks[10]; however, the racial variation in incidence persists throughout the different socio-economic strata[11]. The relative importance of environmental or genetic factors in the aetiology of these neoplasms is difficult to assess.

Germ cell tumours which form the bulk of testicular cancers, are more common in Whites than in Blacks[12]; this is probably the reason for the lower overall incidence of testicular tumours in the latter. The relatively greater number of adnexal tumours we observed in the Negro has been reported by others. In a review of the relative frequencies of testicular tumours in different African centres, about 20% of the intrascrotal malignancies were adnexal tumours[12]. Over one-third of our tumours were rhabdomyosarcomas, and all were in Negroes. The reason for this observation is not known.

Viruses have been implicated in the aetiology of some malignant tumours of connective tissues[13]. It is possible that viral diseases, prevalent in our population, may, in association with genetic or other factors, predispose the adnexal structures to neoplastic change.

We conclude that, despite the rarity of testicular tumours in Negroes and Indians, a greater awareness of these tumours in a population such as ours might lead to their earlier recognition and a better rate of survival.

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