

month and then to undergo radiotherapy. The patient received only 3 courses and failed to attend to the hospital for further management. On May 1981 he was admitted with widespread pulmonary metastasis and large paraortic mass and died.

## Case 2

32 years old Bahraini driver admitted to Salmaniya Medical Centre on July 1981 with painful left testis following mild accidental trauma. He gave a history of bilateral orchiopexy in Bahrain on 1974 following which the left testis failed to remain in the scrotum and he underwent left orchiopexy in India on 1977. At the time of admission the left testis was hard and nodular but freely mobile within the scrotal sac. The left epididymis and cord also felt hard. Ultrasonography of the scrotum showed small and atrophied right testis and well defined, highly echogenic mass in the left scrotum suggestive of neoplasm. There were no palpable masses in the inguinal and iliac regions. All laboratory investigations were within normal limits. The patient underwent left orchiectomy through an inguinal approach and high ligation of the cord was performed. Lymphangiography and CT scan carried out after the operation were normal. Grossly the testis measured 6 x 4 x 4 cm and weighed 75 grams and the cut section showed solid soft white tissue with areas of haemorrhage and necrosis. Histological examination revealed the picture of seminoma invading the capsule and replacing the entire testicular tissue (Fig. 4). Radiotherapy was started to the pelvis, left inguinal region and left scrotum and he received a total of 30 Gys between 21.8.1982 and 20.9.1982, and this was tolerated by the patient. The patient has since then been followed regularly in the out patient clinic with no significant findings.

## DISCUSSION

About 99% of testicular neoplasms are malignant and although they constitute 1 - 2% of the malignant tumours in the male, they are one of the commonest forms of cancer in the young adult males. It is curious that a testis bearing a tumour contained in a bag of skin and thus is more readily accessible to examination than any other organ in the body, only frequently escapes detection until it has metastasized.

The frequent association of testicular tumour after orchiopexy have led most authors (1, 2, 3, 4) to conclude that placement of the gonad in the scrotum does not provide protection against subsequent malignant development. There are however, very few tumours observed in patients who underwent orchiopexy before the age of 10 years and the majority of cases are discovered by examining the orchiectomy specimen carried out after the age 10 (7, 8). It is therefore reasonable to suggest that early orchiopexy i.e. before the age of 10 years, may be associated with decreased risk of subsequent tumourogenesis. In addition it is advisable to do a testicular biopsy at the time of orchiopexy so as to detect early malignant transformation and carcinoma in situ (5, 6).

The incidence of teratocarcinoma of the normally descended testis is between 20 - 30 years of age while that of seminoma is between 30 - 40. These age incidences occurring after orchiopexy were also found to be compatible to these cells types among normally descended testis (6, 7, 8). The average time between orchiopexy and the detection of malignancy was calculated as 10 years (6, 9). In the present cases however, this period was found to be 2 years in

the patient with teratocarcinoma and 7 years in the patient with seminoma.

Surgically removed testis whether undescended or otherwise submitted for histological examination must be carefully examined. Many sections must be processed and deeper cuts must always be made. This is to reveal any possible hidden cellular atypia or neoplasm. In addition, since the clinical presentation of testicular tumours is frequently associated with trauma, the histological features of degeneration and necrosis of the seminiferous tubules along with interstitial haemorrhage must not always be interpreted and diagnosed as infarction or torsion unless all the histology sections are carefully examined. The patient with teratocarcinoma reported in this study could probably have been saved with appropriate therapy and no lymph node or pulmonary metastasis should the diagnosis was made by carefully examining the orchiectomy specimen. A useful diagnostic tests which must always be carried out is the estimation of chorionic gonadotrophin.

All patients with orchiopexy should be advised that careful periodic examination of both scrotal compartments must be done throughout the patient's life, particularly during the third and fourth decades when tumours are most prevalent.

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