CASE REPORT

Testicular non-Hodgkin's lymphoma presenting in a young adult

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SUMMARY

We report a case of a 27-year-old man who presented with a slowly growing left testicular swelling associated with mild pain over a period of 3 months. He was evaluated by his family physician with scrotal ultrasound and testicular tumour markers. He was diagnosed and treated as epididymo-orchitis and managed with antibiotics. When he later presented to us, he had an enlarged left testis with normal spermatic cord. Scrotal Doppler evaluation showed a globally enlarged left testis with normal spermatic cord. Scrotal Doppler evaluation showed a globally enlarged left testis and epididymis with increased vascularity in the left testis, with the right testis being normal. Testicular tumour markers were normal. Fine-needle aspiration cytology of the left testis was suggestive of lymphoma. Exploration through an inguinal approach was carried out and a Chevassu manoeuvre with frozen section study was performed, which was reported as non-Hodgkin's lymphoma. Left radical orchidectomy was performed. Histopathology reported diffuse large B-cell lymphoma, of a germinal centre type. Contrast CT of the abdomen, chest and brain were normal. Sperm cryopreservation was carried out. The patient was started on chemotherapy with cyclophosphamide, hydroxydaunorubicin, oncovin, prednisone (CHOP) regime.

BACKGROUND

Testicular non-Hodgkin's lymphoma (NHL) is a very rare disease, comprising 1% of all NHLs and 9% of all cases of testicular tumours.¹ Testicular NHL is most commonly reported in the literature as a disease exclusively affecting the elderly.¹ We present this case to highlight the fact that testicular NHLs do occur in young adults. Commonly, non-seminomatous germ cell tumours occur in this age group and are associated with elevated tumour markers (α -fetoprotein (AFP), β human chorionic gonadotropin (β -HCG)) in more than 90% of cases. In this case, normal tumour markers with

Figure 2 Ultrasound Doppler showing globally enlarged hypoechoic left testis with increased vascularity.

equivocal response to antibiotics raised a diagnostic dilemma. This patient was being managed as epididymo-orchitis. The pain reduced, however, the testicular swelling did not decrease in size. Fine-needle aspiration cytology (FNAC) in testicular masses is feared to be associated with scrotal violation.² However, cytological diagnosis in the form of FNAC/fine-needle aspiration biopsy aids the diagnosis in equivocal cases. In this case, diagnosis of lymphoma was clinched first on an aspiration cytology study and later confirmed by a frozen section study. A high index of suspicion is needed to detect malignancy early in young adults who have normal tumour markers.

CASE PRESENTATION

A 27-year-old man presented with a slowly growing left testicular swelling over a period of

Figure 1 Clinically enlarged left testis with normal right testis.

Figure 3 Cut section of left testis with spermatic cord showing homogenous greyish-white areas with foci of yellow areas.

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Figure 4 Histopathology photomicrograph. (A) Diffuse sheets of large lymphoid cells replacing testicular parenchyma with occasional preserved seminiferous tubules (arrow; H&E, ×200). (B) CD20 diffuse membrane positive in neoplastic lymphoid cells (×400). (C) Ki67 around 70% (×400). (D): Diffuse nuclear Bcl 6 positivity (×400).

3 months. There was no history of trauma, fever, weight loss or night sweats. On examination, the enlarged left testis, measuring 8×5 cm with normal spermatic cord, was present in the left scrotum. Scrotal skin and right testis were normal (figure 1). There was no abdominal organomegaly, and no lymph node masses were palpable in the abdomen, inguinal areas and supra-clavicular areas.

INVESTIGATIONS

Ultrasonography (USG) Doppler of the scrotum reported a global enlargement of the left testes and epididymis showing diffuse hypoechogenicity and increased vascularity (figure 2).

Serum tumour markers (AFP, β-HCG) were normal.

USG of the abdomen and pelvis was normal.

Contrast CTs of the abdomen and pelvis, chest and brain were normal.

FNAC and frozen section showed NHL.

Figure 5 Biopsy taken from left testis.

A cut section of the tumour showed homogenous greyish-white areas with foci of yellow areas (figure 3) and the histopathology of the orchiectomy specimen was reported as diffuse large B-cell lymphoma of a germinal centre type. Immunohistochemistry showed background reactive T cells positive for CD3, diffuse strong positive for CD20 in the neoplastic lymphoid cells, diffuse nuclear positive for Bcl 6 in the neoplastic lymphoid cells and positive Ki67 index in 70% (figure 4).

DIFFERENTIAL DIAGNOSIS

- ▶ Non-seminomatous germ cell tumour of the testis.
- ▶ Epididymo-orchitis.

TREATMENT

Left testis exploration through an inguinal approach was performed and frozen section with a Chevassu manoeuvre was suggestive of NHL (figure 5). Left radical orchidectomy was performed. The patient was started on cyclophosphamide, hydroxydaunorubicin, oncovin, prednisone (CHOP) regime under the care of a medical oncologist.

OUTCOME AND FOLLOW-UP

The patient is currently receiving CHOP chemotherapy.

DISCUSSION

Primary lymphoma of the testis is an uncommon disease comprising 1% of all NHLs. This entity is chiefly a disease of the elderly, with 85% of cases occurring in patients older than 60 among whom it is the most common testicular tumour.¹ Twenty per cent of cases present bilaterally. They usually present as a painless slow growing testicular swelling. Epididymis, cord involvement and vascular invasion is frequent.¹ Although FNAC in testicular tumour is feared to be associated with probable scrotal violation,² FNAC has been explored in the diagnosis of

lymphoma, Leydig and Sertoli cell tumours.^{3 4} Fear of needle trauma and local tumour implantation as well as lack of information on interstitial tissue and tubular basement membrane on FNAC smears are the drawbacks considered with FNAC in testicular tumours.² Cytology may prove to be a helpful investigation, particularly when facing diagnostic dilemmas in patients who present with normal testicular tumour markers and with testicular swelling, and especially in young patients. Cell block is known to increase sensitivity and specificity and can differentiate between seminoma and lymphoma.⁵ Diagnosis in this case was suspected on FNAC, and later confirmed by frozen section after Chevasu manoeuvre,⁶ and finally reported as diffuse large B-cell lymphoma of a germinal centre type.

Since this condition has a predisposition to systemic dissemination, detailed evaluation of major lymphoid organs is mandatory, with particular attention paid to pelvic and mediastinal

lymph nodes, central nervous system (CNS), Waldeyers ring and skin.⁷ The management has to be aggressive in patients with good performance status and includes contralateral testicular irradiation (25 Gy), prophylactic CNS irradiation (since CNS involvement is seen in up to 30% of patients) and aggressive chemotherapy (R-CHOP being the most commonly used regimen).^{7 8} However, prognosis is uniformly poor with survival in high-grade disease being 9–12 months.

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Competing interests None.

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REFERENCES

- 1 Wang C, Wang H, Wang Q, *et al.* Primary testicular lymphoma: experience with 13 cases and literature review. *Int J Hematol* 2013;97:240–5.
- 2 Highman WJ, Oliver RT. Diagnosis of metastases from testicular germ cell tumours using fine needle aspiration cytology. *J Clin Pathol* 1987;40:1324–33.
- 3 Jain M, Aiyer HM, Bajaj P, *et al.* Intracytoplasmic and intranuclear Reinke's crystals in a testicular Leydig-cell tumor diagnosed by fine-needle aspiration cytology: a case report with review of the literature. *Diagn Cytopathol* 2001;25:162–4.
- 4 Handa U, Sood T, Punia RS. Testicular Leydig cell tumor diagnosed on fine needle aspiration. *Diagn Cytopathol* 2010;38:682–4.
- 5 Nathan NA, Narayan E, Smith MM, *et al.* Cell block cytology. Improved preparation and its efficacy in diagnostic cytology. *Am J Clin Pathol* 2000;114:599–606.
- 6 Subik MK, Gordetsky J, Yao JL, *et al.* Frozen section assessment in testicular and paratesticular lesions suspicious for malignancy: its role in preventing unnecessary orchidectomy. *Hum Pathol* 2012;43:1514–19.
- 7 Mazloom A, Fowler N, Medeiros LJ, *et al.* Outcome of patients with diffuse large B-cell lymphoma of the testis by era of treatment: the M. D. Anderson Cancer Center experience. *Leuk Lymphoma* 2010;51:1217–24.
- 8 Thomas LC, Adonizio C, Fillicko-O'Hara J, *et al.* Testicular lymphoma. *Semin Oncol* 2010;37:549–54.

Learning points

- ▶ Although lymphomas of testis occur more commonly in elderly patients (age 60 years and above and are bilateral), unilateral testis lymphoma can present in younger patients in their third decade without any other organ involvement.
- ▶ In non-resolving or slowly progressing testicular masses in young patients with normal testicular markers, malignancy needs to be ruled out.
- ▶ Cytodiagnosis can help in early diagnosis of malignancy in patients with equivocal findings.

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