

Primary testicular plasmocytoma



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A case of Primary Testicular Plasmocytoma (PTP) in an 81-year-old man with a painless nodule in the left testis is reported. All possible pre-operative investigations were carried out, but the diagnosis of PTP was possible only after microscopic examination of the resected testis.

KEYWORDS: Plasmocytoma, Primary, Testicular, Testis

Introduction

Plasmacellular neoplasms are a group of lymphoid neoplasms of late-stage, differentiated B cells, that have in common the expansion of one single clone of Ig secreting plasma cells¹. Within these conditions, the most noteworthy is systemic Multiple Myeloma (MM)², a monoclonal gammopathy, normally affecting the bone marrow, especially in high myeloproliferative activity bones^{3,4}, such as ribs, spine, long bones, and skull. In addition, there are some variants of MM characterized by atypical locations, such as solitary plasmocytoma of the bones or of soft tissues⁵, which is observed in 3-5% of cases and is composed of a single neoplastic mass of plasma cells in several possible areas⁶. The bone lesions usually appear in the same sites of MM. In con-

trast, extra-osseous areas may include mouth and upper airways, and, also, gastrointestinal tract, lower respiratory system, and lymph nodes⁷, rarely ovaries or testis [8]. We report the clinical case of an 81-year-old patient with a testicular lump which, after surgery, resulted to be a Primary Testicular Plasmocytoma (PTP).

Case report

An 81-year-old man came to us with a small, painless, firm lump of the left testis. Medical history was unremarkable, while physical examination showed a fixed, 3 cm nodule of woody consistency in the left testis, smooth and painless on palpation, with no other detectable abnormalities in the epididymis or spermatic cord. The patient received routine laboratory tests, including urine analysis (which showed no evidence of proteinuria), and blood protein electrophoresis (which was normal, with levels of γ -globulin of 1.33 g/dl or 18.7% of total proteins). ∞ FP (β -fetoprotein), β -hCG (β -human chorionic gonadotropin), NSE (neuron-specific enolase), PLAP (placental alkaline phosphatase), and LDH (lactate dehydrogenase) were all within normal range. A testicular echography showed an irregular, dishomogeneous, bilobate area, with a maximum diameter of approximately 50 mm, contained in the scrotum, with thickening of

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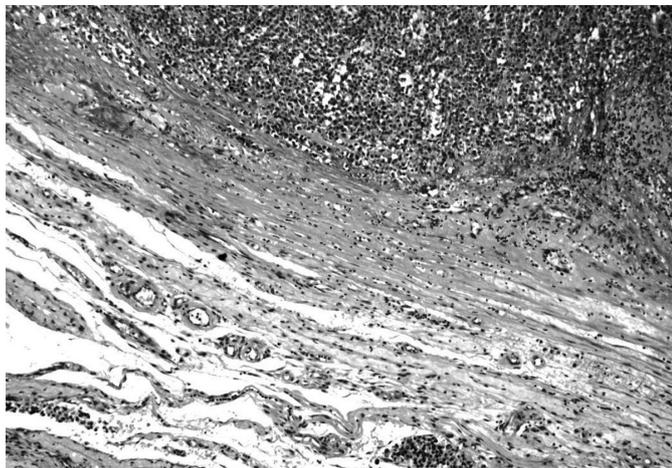


Fig. 1: Low power view of testicular plasmocytoma, with an atrophic tubule on the left inferior corner (H&E, 40x).

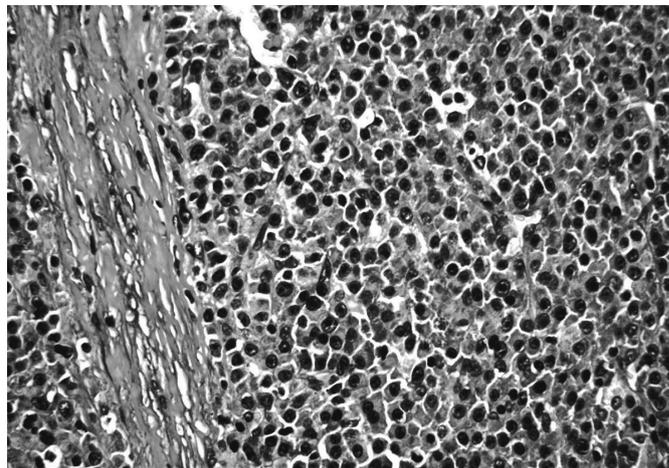


Fig. 2: High power view of neoplastic cells, with characteristic round eccentric nuclei and eosinophilic abundant cytoplasm (H&E, 250x).

the body and tail of the epididymis, suggestive for a primitive testicular lesion. The patient, therefore, received a left radical orchiectomy: the macroscopic cut section of the lesion showed normal testis completely replaced by lobular, greyish material, containing some brownish areas, not exceeding the capsule and not involving the spermatic cord. Histology (Figures 1, 2) revealed neoplastic cellular proliferation with wide, amphophil cytoplasm, nuclei of various diameters, often with thickened chromatin, but also with vesicular appearance, and a central, eosinophil nucleolus, with, also, some bi- or trinucleate cells. The mitotic index was very high and there were atypical mitosis (tri- or tetrapolar) in anaplastic areas. The neoplastic cellular population turned out positive to the reactions prepared with anti- β light chains (cytoplasmatic positivity with paranuclear reinforcement), anti-epithelial membrane antigen (EMA) and anti-CD43 (focus pattern) antibodies, but it turned out negative to those with anti-CD45RB (leukocyte common antigen), anti- β light chains, anti-CD3, anti-CD20, anti-citokeratin, anti-PLAP (placental alkaline phosphatase) and anti- β hCG antibodies. Diagnosis of PTP was made. After histology, both immunoelectrophoresis of the urine, and bone marrow aspiration and examination of proportion and morphology of bone marrow plasma cells were performed, both turning negative for systemic MM. Examination of bone marrow also included flow-cytometric analysis and/or immunostaining. Computed Tomography (CT) scans of the thorax, abdomen and pelvis, and a bone scintigraphy were performed for staging purposes, and no additional neoplasms were identified. The testicular tumour was classified as a primary and solitary localization of plasmocytoma. Due to staging of the neoplasm and to the advanced age of the patient, it was decided not to administer any chemo- or radiotherapy, rather to follow him up clinically and with periodical diagnostic imaging. A CT scan of the thorax,

abdomen and pelvis six months later showed no evidence of recurrence. Twenty-four months after surgery, the patient is in good health, without any clinical evidence of residual or recurrent PTP.

Discussion

Testicular tumours are classified as: germinal cell tumours, stromal cell tumours and mixed tumours (germinal and stromal cells), other rare tumours (e.g. epidermal cysts and mesenchymal tumours), and metastatic neoplasms (e.g. lymphoma, leukemia, plasmocytoma, carcinoma) ⁶, and these different types cannot be discriminated by ultrasonography ⁵. The testicles rarely harbour secondaries from other tumours, commonly leukemia or lymphoma, seldom systemic MM ^{7,8}. Diagnosis of PTP is exceedingly rare, with only a few cases reported ³. Gowing et al examined more than 2,700 testicular neoplasms, and only 3 or 0.11% of these were PTP ². The incidence of cases of medullary MM involving the testis ranges between 0.6% and 2.7% ⁹. According to Oppenheim et al., only 6 of 37 cases that they observed were true primary locations of testicular disease, while all the remaining cases were secondary localizations of systemic MM, with scattered classic pattern of disease ⁶. As a rule, extra-osseous forms of MM affect young people and present a M protein in less of 30% of cases, have a tendency to rarely progress or relapse, and are characterized by survival rates >10 yrs ¹. Besides, while MM usually benefits from chemotherapy with cyclophosphamide, extra-osseous plasmocytoma, such as PTP, is highly radiosensitive ². Ferry et al reported 7 patients, including 3 cases of solitary testicular localization as the first sign of a plasmacellular myeloma ⁸. A relatively short follow-up period is reported for the published cases, with an average of 12 months. Gowing,

in his study, suggests a clinical follow-up of approximately 1 year, in order to ascertain the primary or secondary nature of the extra-osseous MM², however the possibility that a MM can develop after many years cannot be ruled out. Sixteen of 17 patients with PTP received an orchiectomy. Only 8 of these were still alive 14-51 months after the initial diagnosis, many of them having subsequently developed MM elsewhere. With regard to immunohistochemistry, Avitable et al first reported that in patients with testicular involvement in MM immunoperoxidase technique reveals the same Ig type of the scattered clone of disease¹⁰. In conclusion, primary PTP is a rare condition, nevertheless it should be taken into account when a testicular lump is diagnosed.

Riassunto

Si riferisce su di un caso di plasmocitoma primitivo del testicolo (PTP) in un uomo di 81 anni, evidenziato da un nodulo non dolente del testicolo sinistro. Ogni possibile indagine preoperatoria venne eseguita, ma la diagnosi di PTP fu possibile solo dopo l'esame istologico del testicolo asportato.

References

- 1) Alvarez-Múgica M, Jalón Monzón A, Bulnes Vázquez V, Aguilar Andrea C, Fernández Gómez JM, González Alvarez RC, et al.: *Secondary testicular plasmocytoma* [in Spanish]. Arch Esp Urol, 2007; 60: 99-102.
- 2) Gowing NF: *Malignant Lymphoma of the testis*. Br J Urol, 1964; 36 (Suppl): 85-94.
- 3) De Rose AF, Giglio M, Naselli A, Truini M, Carmignani G: *Case report: Testicular secondary localization of a multiple myeloma*. Int Urol Nephrol, 2002; 33:101-2.
- 4) Kremer M, Ott G, Nathrath M, Specht K, Stecker K, Alexiou C, et al.: *Primary extramedullary plasmocytoma and multiple myeloma: Phenotypic differences revealed by immunohistochemical analysis*. J Pathol, 2005; 205:92-101.
- 5) Reddi VR, Anne GP, Rani AV, Phaneendra BV, Ramesh O, Lakshmi N, et al.: *Primary plasmocytoma of testis. Report of a case*. Indian J Cancer, 1998; 35:152-55.
- 6) Oppenheim PI, Cohen S, Anders KH: *Testicular plasmocytoma. A case report with immunohistochemical studies and literature review*. Arch Pathol Lab Med, 1991; 115:629-32.
- 7) Goodyear O, Piper K, Khan N, Starczynski J, Mahendra P, Pratt G, et al.: *CD8+ T cells specific for cancer germline gene antigens are found in many patients with multiple myeloma, and their frequency correlates with disease burden*. Blood, 2005; 106:4217-224.
- 8) Ferry JA, Young RH, Scully RE: *Testicular and epididymal plasmocytoma: a report of 7 cases, including three that were the initial manifestation of plasma cell myeloma*. Am J Surg Pathol, 1997; 21:590-98.
- 9) Hou TY, Dai MS, Kao WY: *Testicular plasmocytoma with bone dissemination without medullary plasmacytosis*. Ann Hematol 2003; 82:518-20.
- 10) Avitable AM, Gansler TS, Tomaszewski JE, Hanno P, Goldwein MI: *Testicular plasmocytoma*. Urology, 1989; 34:51-54.

