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Case report

Symptomatic burned-out testicular seminoma: A case report☆

Marchese Tiziana [a,1], Botrugno Ivan [a,2], Perrone Federico [a,3], Serio Giovanni [b,2], Marcello Spampinato [a,4], William Sergi [a,5,*]

[a] Dept. of Surgery, "Vito Fazzi" Hospital, Piazza Filippo Muratore, 73100 Lecce, Italy
[b] Dept. of Pathology, "Vito Fazzi" Hospital, Piazza Filippo Muratore, 73100 Lecce, Italy

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ABSTRACT

Introduction and importance: Burned-out testicular cancer is a rare phenomenon to be taken into account for differential diagnosis in males presenting with retroperitoneal lymphadenopathy.
Case presentation: A 54-years-old male complaining of abdominal pain over the past several months was found on CT to have a large mass adjacent to the inferior vena cava, with the imaging features of a malignant lymphadenopathy.
Clinical discussion: The hematologist who evaluated the case suggested a biopsy of the retroperitoneal mass: a seminoma was diagnosed on pathological examination. Then a testicular US revealed a focal peripheral hypoechoic region with no associated internal vascularization within the right testicle.
Conclusion: This case report highlights the need for routine scrotal examination in all men presenting with an abdominal mass in order to rule out the possibility of an intra-abdominal seminoma.

1. Introduction

Burned-out testicular tumor is the rare presentation of a metastatic germ cell tumor with an occult/regressed primary testicular lesion. It is uncommon, seen in approximately 10% of primary germ cell tumors, but this disease cannot be missed due to the serious impact on treatment [2].

We present a case of a patient with symptomatic retroperitoneal lymphadenopathy, who was subsequently found to have a primary lesion within the right testicle.

2. Case report

A 54-year-old male presented to the Emergency Department describing history of several months of vague abdominal pain. At the time of presentation, the patient denied fever, chills and night sweats or feeling fatigue or lethargy. A total-body CT scan showed a large retroperitoneal polycyclic mass adjacent to the inferior vena cava, with the radiological characteristics of a malignant lymphadenopathy (Fig. 1).

After hematological advice, that confirmed the need of a histological definition, the patient was admitted to our Division and he underwent a US-guided percutaneous core biopsy of the retroperitoneal mass. The hospital stay was uneventful and the patient was discharged the day after the procedure.

The diagnosis of seminoma was made after pathological examination. Based on these findings, at the next control we performed testicular US evaluation: US demonstrated a small hypoechoic lesion at the periphery of the right testis, without evidence of increased internal vascularization.

Abbreviations: CT, computerized tomography; US, ultrasound.

☆ The work was written in line with the SCARE criteria [1]. Consent to the processing of data for scientific purposes is requested and signed at the time of admission and kept in the medical record; the authors confirm that the patient's parents have signed consent to the publication of the data.

* Corresponding author.
E-mail address: willi.sergi@hotmail.it (W. Sergi).

[1] Co-author of entire manuscript.
[2] Co-author of discussion.
[3] Data collection.
[4] Supervisor.
[5] First author.

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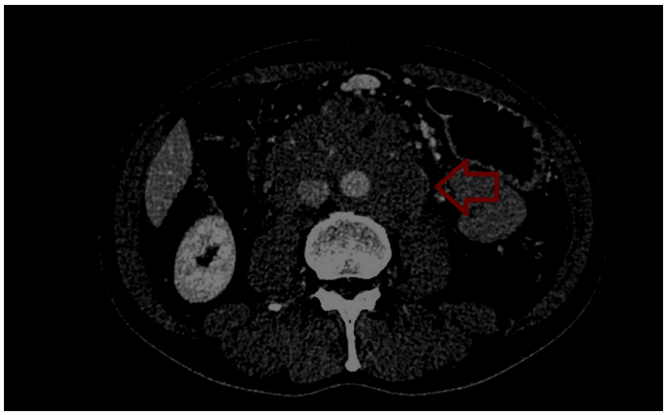

Fig. 1. Malignant retroperitoneal lymphadenopathy at CT scan.

3. Discussion

Testicular tumors are the most common malignancy in males between 15 and 44 years [3]. Primary testicular tumors are divided into non-germ cell and germ cell tumors. These last, more frequently identified, probably arise from the failure of maturation of normal gonocytes [4]. They are further divided into seminomas (more common), and non-seminomas (rarer, they include choriocarcinoma, embryonal cell carcinoma, yolk sac tumor, teratoma and mixed germ cell tumor).

Germ cell tumors are not necessarily confined to the testicles: other sites include mediastinum and retroperitoneum. These tumors represent approximately 5–10% of all germ cell tumors, the most common being the mature teratoma [5].

Testicular cancer classically manifests as a painless palpable testicular mass and US is typically the imaging of choice for primary diagnosis.

In 2–10% of germ cell tumors a metastatic disease is identified on imaging, without involvement of the testicles [5,6].

A burned-out testicular tumor consists of a regressed primary testicular lesion with a metastatic focus of disease. This is thought to be due to the primary tumor outgrowing its blood supply resulting in its regression [7,8].

A burned-out testicular tumor can have different US appearance, ranging from small areas of hypo- or hyper-echogenicity and/or focal calcification to a completely normal or diminutively-sized testis. This presentation, while rare overall, is more typically seen in choriocarcinoma and embryonal cell carcinoma; only a few case reports describe this phenomenon involving a seminoma [3].

Treatment of a burned-out testicular tumor requires orchiectomy with or without adjuvant chemotherapy and/or radiation [6]. It is therefore important to distinguish primary extragonadal germ cell tumors from burned-out testicular tumors, since treatments are different.

4. Conclusion

Burned-out testicular cancer is a rare phenomenon to be considered for differential diagnosis in young males presenting with retroperitoneal lymphadenopathy. It is imperative to differentiate these cases from primary extragonadal germ cell tumors that follow a different treatment regimen and typically manifest in other locations, such as mediastinum and retroperitoneum [5]. Both physical exam and US of the testicles are to be warranted in all young males to make the correct diagnosis.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Ethical approval

In our institute, the approval of the ethics committee for the retrospective analysis of a clinical case report is not required.

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Registration of research studies

The submitted case report is not a research study.

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CRediT authorship contribution statement

William Sergi: author of work and manuscript writing.
Tiziana Marchese: co-author.
Ivan Botrugno, Giovanni Serio: co-authors of discussion.
Federico Perrone: data collection.
Marcello Spampinato: supervisor.

Declaration of competing interest

The authors declare no conflict of interests.

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