Case Report: Adult Pure Yolk Sac Tumor of the Testis

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ABSTRACT

Yolk sac tumor is a non-seminomatous testicular germ cell tumor rarely found in adults. It is an extra-embryonic differentiated tumor. It reproduces structures evocative of the yolk sac in humans. We report the clinical case of a 37-year-old patient, with no previous history, who is followed up for a tumor of the left testicle revealed by an increase in size and induration of the testicle. The left orchiectomy, performed through an inguinal approach, allowed us to retain the diagnosis of pure yolk sac tumor on anatomical and immunohistochemical examination. The evolution was marked during the surveillance by a relapse requiring a systemic treatment.

Keywords: Anatomopathological aspects, testicular tumors, Yolk Sac Tumor.

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I. INTRODUCTION

Yolk sac tumor is a non-seminomatous germ cell tumor that is common in children, and rare in adults [1]. It is a tumor with a better clinical prognosis in children. It can be either pure or associated with other contingents. The pure form represents a very rare occurrence [2]. Their management is based on orchiectomy, sometimes associated with lymph node dissection, and chemotherapy based on Bleomycin, Cisplatin, Etoposide depending on the tumoral stage [3].

II. MEDICAL OBSERVATION

The patient was 37 years old, father of one child, who had been experiencing for 2 months an increase in volume, as well as an induration of the left testicle. No pain or contralateral testicle abnormality have been identified are recorded. Free ganglion areas and a normal diagnosis of the remaining examination. The patient had a scrotal echography that showed a testicular mass. As well as tumor markers with a level αFP at 48.8 IU/ml and β-HCG at 9.8 IU/l.

The patient subsequently received a left inguinal orchiectomy. Anatomopathological and immunohistochemical studies concluded that the profile was in accordance with a yolk sac tumor. The initial extension check-up by thoraco-abdomino-pelvic scan did not reveal any secondary lymph node location.

The patient was classified as stage IA, no adjuvant treatment was indicated. A follow-up was established with a negativation of the αFP at 6.48 IU/ml at 3 months.

The evolution was marked at 6 months after surgery by the appearance of a mass at the level of the spermatic cord path associated with an isolated re-ascension of the αFP to 207.42 IU/ml, B-HCG and LDH were normal. In the extension checkup, the thoraco-abdomino-pelvic CT scan (Fig. 1).

III. DISCUSSION

Testicular tumors represent only 1-2% of tumors in children, and 1% in adults [4], [5]. The Yolk sac tumor in children differ from those in adults. In children, they are most often found at an early stage and remain of better prognosis. Whereas, in adults, they are very malignant and may lead to metastasis and recurrence. Therefore, its prognosis is rather critical [6].

Scrotal echography remains the appropriate examination for the evaluation of testicular tumor pathology. Yet, its echographic aspect does not enable to distinguish between yolk sac tumors and other solid tumors [7].

Testicular tumor markers (α-FP, B-HCG, LDH) are of utmost importance for the diagnosis, staging, as well as the medical care of the patient. An accurate dosage of these markers should be performed in the pre-operative phase to serve as a baseline. In Yolk sac tumor, α-FP is positive in 90% of cases at the preoperative stage and helps to assess the treatment and to monitor the relapse [11].

The diagnosis of Yolk sac tumor is supported by anatomopathological examination along with an immunohistochemistry on a surgical specimen.

Macroscopically, it is portrayed as a vitelline tumor, consisting of a homogeneous, well-limited, non-encapsulated, yellowish-white, solid or partially cystic testicular mass with myxoid remodeling [7].

Microscopically, this tumor is highly polymorphic [7], with two main features: the presence of inconsistent but diagnostically valuable Schiller-Duval bodies as well as intercellular basement membrane deposits arranged in a band (Fig. 2).

On immunohistochemistry, these tumors strongly display α-FP, glypican 3 [8], CK AE1 AE3 and SALL4 [9], CD30 are negative. Fig. 3 shows immunohistochemistry on the patient's orchiectomy specimen.

Fig. 1. Scannographic aspect of the relapse.

Fig. 2. Microscopic view after Hematoxylin and eosin (HE) stain.

Fig. 3. Landscape of the different immunohistochemistry markers performed.

Fig. 4. AJCC prognostic stage groups.
The extension check-up must be performed in order to classify the patient and for his medical follow-up. The thoraco-abdomino-pelvic CT scan represents the reference and allows to evaluate the distant extension as well as the lymph node involvement, especially in the retroperitoneal area [12].

AJCC CLASSIFICATION 2009 which helps guide our medical care is mainly based on TNM stage along with serum marker levels postoperatively (Fig. 4) [13].

The approach to the medical care of this entity is essentially similar to that of non-seminomatous germ cell tumors. Orchidectomy, representing the default treatment, is carried out through the inguinal route.

For stage I, immediate lymph node dissection is considered, as a high number of invaded lymph nodes may be found, namely in the case of vascular invasion or associated embryonic contingent [14]. The main risk of this lymph node dissection is the affection of the sympathetic nerves, which in turn leads to an anejaculation.

A course of BEP chemotherapy may be recommended as adjuvant treatment, notably in the presence of risk factors for early recurrence such as lympho-vascular or spermatic cord invasion [15].

Treatment of stages II and III is usually based on 3 courses of BEP chemotherapy with surgery if there are any residual masses. Other protocols such as VIP (Etoposide/Ifosfamide/Cisplatin) can be adopted [16].

IV. CONCLUSION

Yolk sac tumor remains a rare tumor in adults. The diagnosis is carried out based on immunohistochemical study. Its prognosis remains cautious due to the high rate of tumor recurrence, as well as lymph node and visceral metastases.

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CONFlict of interest

Authors declare that they do not have any conflict of interest.

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