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# Pure Vitelline Tumor of the Testicle: A Rare but not Exceptional Event in Adults

Dr. Conde Fadama*, Dr. Jamali Mounir, Dr. Bouklifi Youness, Dr. Jendouzi Omar, Dr. Aziz, Pr. Alami M, Pr. Amur HAS

The Military Hospital of Instruction Mohammed V Rabat, Morocco

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***Corresponding author:** Dr. Conde Fadama
The Military Hospital of Instruction Mohammed V Rabat, Morocco

**Abstract** | **Case Report**

Vitelline tumor of the testis is a type of TGNS cancer, rare in adults, histological diagnosis is based on the discovery of SCHELLER bodies –, DUAL (tumor cells often connect to form open spaces called cysts, other patterns include large clusters of cells, they are papillary finger-like glands with a large vessel in the center). We report a clinical case and discuss the histogenesis, therapeutic attitudes, follow-up, prognosis and a literature review.

**Keywords**: Vitelline tumor of the testis, chemotherapy, follow-up, prognosis.



## INTRODUCTION

The yolk sac tumor is a type of cancer with extra embryonal differentiation of the endodermal sinus and from non-seminomatous germ cell tumors. This is the type of tumor that is common in children under 5 years old. A pure yolk sac tumor is a tumor consisting essentially of yolk sac tumor cells. Histologically; tumor cells often connect to form spaces called cysts; other models included large, solid groups of cells called glands and finger-like papillary structures in the center a large blood vessel surrounded by clear space called the body of SCHILLER DUVAL.

These tumors have a poor prognosis in adults, especially in the metastatic stages, which nevertheless remain chemo-sensitive.

We report a case to you and we discuss the histogenesis; therapeutic attitudes; the follow-up the prognosis reported in the literature

## OBSERVATION

Mr KM is a 68-year-old patient followed for metastatic prostate ADK SG a 8 (4+4) ISUP 4; Initial PSA at 40ng per liter evolving for 5 years under hormonotherapy based on zoladex 10.8 subcutaneously and stereotactic radiotherapy; HIG operated 10 years ago; no known toxic habits. Consulted for the appearance of a right testicular mass with excused pain dating back two months from his admission to the service; all evolving in a context of pyrexia and conservation of its general condition.

Locally, there are two right testicular masses that are painful on palpation: the chevassu sign is positive; the regional examination (penis; perineum does not reveal any notable clinical particularity.

The TR (rectal examination): There is a free anal margin; normal tonic sphincter; empty rectal ampulla and a large, hard, stony *prostate estimated at 60 cc.*

Examination of the lymph node areas does not reveal any notable particularities.

An ultrasound was requested which came back in favor of two heterogeneous tissue testicular masses with suspicious appearances *of 27 x 23 mm and 19 x 20 mm*; tunica albuginea is normal. Epididymis swollen to 18mm at the level of the head and heterogeneous fig1. The contralateral testis is normal.

A biological assessment made: - *alpha fetoprotein at 1.32 IU / ml or 160 ng / ml.*

*HCG less than 1 mg/ml; LDH at 167*. Correct kidney function.

A right orchidectomy was proposed to him and performed on 12/12/2021 by the right inguinal edge

with first ligation of the spermatic cord t simple surgical follow-up:

*The Anapath in favor of morphological and profile, immunohistochemical aspects of a testicular localization of a poorly differentiated carcinomatous process of at least 4.5cm of long axis and cord measured at 7.2cm long not infiltrated, the epididymis measured at 6cm long:*

- *Tumor of intra-testicular location (tumor cells are provided with abundant eosinophilic or clarified cytoplasm and voluminous anisokaryotic nuclei).*
- *Absence of invasion of the epididymis and tunica albuginea.*
- *Absence of testicular and cord vascular invasion.*
- *Surgical limit of the cord passed into healthy tissue.*
- *NB: the positivity of the PLAT pleads in favor of a testicular in particular a vitelline tumor.*
- *The body of SCHILLER-DIVAL fig2.*

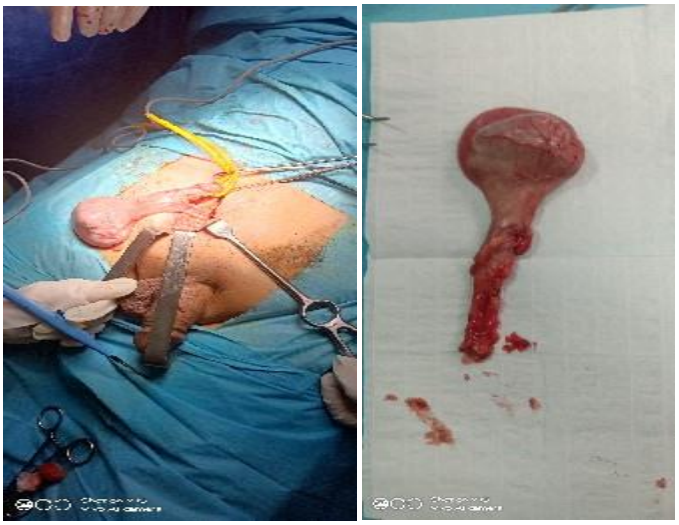

**Fig-1: Intraoperative and orchidectomy image**

*The Schiller-Dival body visible on the histology of the piece, suggesting the viteline tumor.*

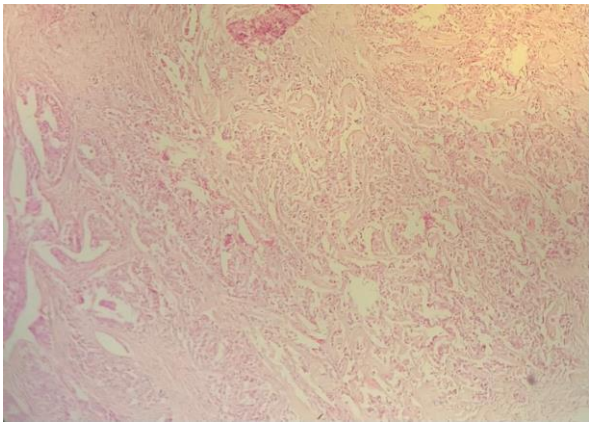

**Fig-2: Histological images**

## DISCUSSION

An r event is one characterized by the occurrence of a histological type of pure vitelline tumor of the testicle in adults. However; it represents 72% of testicular tumors in children under 5 years old [2] and 2.5% in its mixed form in children on pieces of orchidectomy performed for testicular cancer, pure form of writing remains in children remains exceptional in adults. more than 79% published in adults are associated with other TGNS contingents [2, 3].

This differentiation in the extra-embryonic direction, histologically reproduces the structure of the human yolk sac (endodermic sinus of the rat) and regularly expresses immunohistochemistry at AFP. It should be noted that the elevation of AFP in the blood is a function of the level of evolution of the tumoral pathology [2].

In the case we are talking about, the yolk sac tumor was pure in histological form, it was a differentiated tumor in the extra-embryonic sense and reproduced structures suggestive of the yolk sac except

that this case did not secrete any AFP, PSA, CD30, inhin, SALL4 t CK20 certainly at the level of evolution of the tumoral disease as written in the stage 1a literature.

**In Our Patient**

We note an expression of CKAE1/AE3 and of CK7 by the tumor cells and of the PLAT which was in favor of a pure vitelline tumor of the testis.

Classic immunohistochemical markers of yolk sac tumors include AFP, PLAT and glypican-3, however these markers lack sensitivity and specificity particularly in the extragonadal site [1-3].

The diagnosis remains histological in nature after orchiectomy by the inguinal route and demonstration of the bodies of SCHELLER-DUVAL **[**4, 5].

Classification of the prognostic groups of GNS ICO97 [2] tumors according to which we distinguish three prognostic groups; prognostic factors include: mediastinal TGNS, visceral metastases (outside the lung) levels of LDH, AFP, HCG markers:

**1) Good Prognosis 90% of TGS and 56% of TGNS:**

- Primary gonadal or retroperitoneal tumors ET – AFP less than 1000ng / ml, HCG less than 5000 IU / L and or LDH less than 1.5 x N.
- Absence of visceral metastases apart from pulmonary metastases.
- overall survival at 5 years 92%.

**2) Intermediate Prognosis; 10% of Seminomas and 28% of TNS:**

- Primary gonadal or retroperitoneal tumors and absence of visceral metastases outside the lungs and AFP between 1000 -10,000 and or HCG between 5000 - 50,000 and or LDH between 1.5 - 10x N.
- OS at 5 years is 80%.

**3) Poor Prognosis 16% TGNS and no Poor Prognosis Seminoma:**

- Mediastinal tumours, whatever the other factors, non-pulmonary visceral metastases or afp above 10,000; orHCG SUP a 50000 or LDH sup a 10 Xn.
- Sg at 5 years is 48%.

***Our Patient was Classified in the Good Prognosis Group***

Adjuvant management of good prognosis TGNS is a function of the progressive stages of the tumor disease.

- **Stage 1**: The monitored stage 1 recurrence rate is 30% but rises to 50% for TGNS1 with a poor prognosis factor (EV or L).
- **The treatment is based on three possibilities [1, 2, 5]:** Monitoring, chemotherapy, surgery.
- **Monitoring:** Strict applies in the absence of poor prognosis and compliance with monitoring. if not retained chemotherapy or LDRP.

***Chemotherapy:**

- **Indication**: Presence of an EV (vascular invasion) OR L (lymphatic) or non-compliance pt1 with standardized markers.
- **Modality:** 2B.EP OR (3.EP if CI at BEP): recurrence rate at 2.7%.

- **Ipsilateral dissection with preservation of nerve strips**: Same indication as chemotherapy.
- **In the event of recurrence of the monitoring arms**: 3B.EP or inclusion in a trial.
- **If chemotherapy arm**: 4VIP or VEIP then discussion of surgery for residual masses.
- **If late recurrence more than 2 years after chemotherapy**: Discuss primary surgery if possible.
- **At stage 1 non-normalization of markers**: 3B.EP.
- ***Our patient benefited from a structural monitoring.***

**Monitoring of stage Ia TGNS (2.5)**

- Clinical examination + tumor markers every 3 months for two years and TDM-TAP every month for two years.
- From the third year, clinical examination every year for 10 years and TDM-TAP every year for 10 years.

**Chemotherapy**:

Clinical examination, tumor markers; TDM-TAP same protocol as the previous one.

**Testicular Ultrasound is Optional**

- *Our patient benefited from strict monitoring as defined in the literature.*

## CONCLUSION [2-4]

The vitelline tumor of the testicle is a very rare and exceptional tumor in adults, its diagnosis is histological (presence of the scheller-duval body), its prognosis is less favorable than that of the child. Its discovery at an early stage in the The adult has a good prognosis and obeys a treatment based either on structural surveillance with a compliant patient or with absence of lymphovascular invasion or chemotherapy based on 2B.EP followed by surveillance. At a metastatic stage it is an aggressive multidisciplinary treatment.

The evolution of this tumoral disease depends on the prognosis group at the time of diagnosis.

**CONFLICTS OF INTEREST**

The authors declare no conflict of interest.

**Contribution of the Author's**

All authors have contributed to the development of this article (diagnosis, treatment, follow-up, discussion, and review of the literature).

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