Spontaneous metastatic bleeding in germ cell testicular tumor

López-Álvarez Abraham, Navarrete-García Enrique, Gaytán-Escobar Edgar, Torres-Medina Eduardo

ABSTRACT
Testicular tumor is not very frequent and most commonly presents in patients between the ages of 15-35 years, representing 0.5 - 2 % of tumors in men. Testicular tumor diagnosis has a big impact on the patient due to the age in which it presents, the necessary treatment, and its implications in relation to fertility. In advanced stages, metastases considerably increase morbidity. Its metastatic pattern is typically lymphatic with the exception of choriocarcinoma, which has a hematogenic pattern. The case presented here is a mixed germ cell tumor with metastatic retroperitoneal tumor mass that presented spontaneous hemoperitoneum due to metastatic rupture. Disease progression was short-term, ending in death.

Key words: Testicular tumor, peritoneal hemorrhage, spontaneous, Mexico.

RESUMEN
El tumor de testículo es poco frecuente; la presentación más común se da entre los 15 y 35 años de edad. Representa de 0.5% a 2% de tumores que afectan al hombre. El diagnóstico tiene gran repercusión debido al impacto que ocasiona al paciente por la edad de presentación, el tratamiento necesario y sus implicaciones en cuanto a la fertilidad; sin embargo, en estadios avanzados las metástasis aumentan considerablemente la morbilidad. Su patrón metastásico es típicamente linfático, a excepción del coriocarcinoma, que es hematogéneo. Presentamos un caso con un tumor germinal mixto, con masa tumoral metastásica en retroperitoneo, que presentó hemoperitoneo espontáneo por ruptura de metástasis. Tuvo una evolución fatal a corto plazo.

Palabras clave: Tumor testicular, hemorragia peritoneal, espontáneo, México.

INTRODUCTION
Metastatic tumor bleeding is generally associated with poor prognosis due to its relation to advanced stage disease. Testicular tumors are included in a varied morphological and clinical neoplastic group. Almost all are primitive testicular tumors and the majority are germ cell tumors.
Two maximum incidence peaks are distinguished: infancy and the period between the ages of 25 and 35 years. Two percent of testicular cancer cases are bilateral. There are predisposing factors recognized worldwide that affect germinal epithelium and that damage germinative cells such as testicular atrophy, bacterial and viral infections, endogenous and exogenous high temperatures, testicular trauma, orchitis, cryptorchidism, and testicular feminization syndrome. They are factors that in one form or another damage germinal epithelium, predisposing its malignant degeneration. The primary cell is totipotential and this totipotentiality can be triggered even after cellular atrophy causing cellular differentiation; it can then regress into a primordial cell and finally differentiate into another histological type that is different from the anterior primitive cell. This phenomenon of dedifferentiation is one of the characteristics of gonocyte totipotentiality. The tumor can synchronously have differentiated cells of diverse histological types. It can follow the embryonic line and have different cell strata, in which case the tumor is a teratoma; it can follow a spermatocytic line and produce seminomatous tumors, or it can follow an extraembryonic or placental line in which the tumor possesses cells that are similar to syncytiotrophoblasts and cytotrophoblasts. This tumor that is differentiated into varied histological types can migrate and metastasize; it can even dedifferentiate again into a primordial cell and give rise to, for example, a mature teratoma that is considered to be an encapsulated benign tumor. It can remain in place for two years allowing for the possibility of rescue surgery to extract the tumor and thus offering the patient a possible cure.

There are also mixed tumors in which primordial cells are mixed together and do not generate just one growth line; 35% of cases are mixed tumors. But the patient has a 65% possibility of presenting with a single tumor line and of reversing this process through aggressive treatment with chemotherapy and radiotherapy or surgery and thus form part of the 90% of patients that have the possibility of being cured.

These tumors have one particular characteristic - they have the shortest duplication time of the entire economy - 20 to 40 days. If the tumor has a 1 mm diameter, no complementary study can detect it and it has 10 duplications and approximately 1,000,000 cells. If the tumor undergoes 10 more duplications in approximately 9 months, it can grow up to 1 cm in size and have approximately 1,000 million cells. With 10 duplications more, it can grow to weigh 1 kg and be incompatible with life. With respect to clinical symptoms, the majority of testicular tumors present with painless growth. Acute testicular pain is the result of bleeding or intratumoral infarct. Ten percent of testicular tumor patients are asymptomatic and 10% manifest symptoms related to metastatic disease. They usually seek medical attention due to lumbar pain (retroperitoneal metastasis), tachypnea and dyspnea (pulmonary metastasis), or lower limb edema (vena cava obstruction).

The majority of patients seek medical attention late (3-6 months), an idiosyncratic characteristic common in the male population the authors treat. Consultation should include thorough examination, placing special emphasis on the Chevassu maneuver, which consists of palpating the epididymis with the thumb and index finger. The Sebileau maneuver, in which a cracking sound is perceived when the virtual cavity between the tunica vaginalis and the testicular tunica is detached, should also be done. Examination should include transillumination, which is negative in the case of testicular tumor, confirming gonad-confined tumor and allowing for differential diagnosis with hydrocele, orchitis, varicocele, etc.

## CASE PRESENTATION

Patient is a 23-year-old male with no past medical history of importance. He complained of mild to moderate epigastric pain of 1-month progression that radiated to dorsal region and increased with movement (walking) accompanied with postprandial fullness sensation and 10 kg weight loss in one month. These clinical symptoms exacerbated and patient lost desire to eat and thus sought medical attention. Physical examination of the abdomen revealed non-painful, defined tumor with a diameter of 10 cm in epigastrium fixed to deep planes; no hepatomegaly or splenomegaly; 1 cm inguinal adenomegaly; 15 cm stony left testis with ipsilateral spermatic cord of increased size and consistency. Patient was initially admitted to the internal medicine service where ultrasound study showed hypoechoic retroperitoneal mass forming conglomerates in the epigastrium and left renal fossa; kidneys had normal characteristics, and anterior and superior displacement of the left kidney. Computed tomography (CT) reported heterogeneous hypodense zone in right hepatic lobe, solid heterogeneous 16 cm intra-abdominal mass with left renal hilum involvement (Figures 1 and 2).

In the urology service tumor marker tests were ordered reporting alpha-fetoprotein >5 thousand ng/mL and beta fraction human chorionic gonadotropin 10 IU/mL. Patient underwent left radical orchiectomy with no complications. Histopathological study reported mixed germ cell tumor that was 20% immature teratoma, 20% primitive neuroectoderm, 40% endodermic sinus, and 20% necrosis. There was infiltration of tunica albuginea, paratesticular soft tissue, and spermatic
cord. Thirty-two hours after surgery patient presented with hypotension, diaphoresis, abdominal pain, and signs of peritoneal irritation and underwent exploratory laparotomy that revealed no bleeding of spermatic cord stump, hemoperitoneum of 2000 cc, and hemorrhage arising from friable abdominal tumor adhered to small intestine, pancreas, and liver (Figure 3). Packing with compresses + Gelfoam was carried out and patient was sent to intensive care unit in hypovolemic shock. He remained in intensive care for 8 days where he died from mixed shock (septic and hypovolemic).

CONCLUSIONS

Despite its aggressive nature, testicular tumor has a high remission and survival rate of 70-80% at five years. Testicular tumors respond favorably to cisplatin chemotherapy. Gastrointestinal hemorrhage is an indicator of poor prognosis.\(^3,4\) Pathology manifests with symptomatology derived from metastatic disease in 5-10% of cases. Choriocarcinoma, like other intestinal metastatic lesions, invades the submucosa and rapidly expands compromising vascular flow and causing mucosa erosions and ulcerations. There are approximately 30 cases of testicular tumor that have presented with hemoperitoneum although the origin is intestinal, not retroperitoneal.\(^5,6\)

BIBLIOGRAPHY