Case Study of the Month

Metastatic Spermatocytic Seminoma – An Extremely Rare Disease

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1. Case report

In March 2002, a previously healthy 26-year-old man underwent right orchiectomy for an intratesticular tumor of 7cm in diameter. Diagnosis of a spermatocytic seminoma with vessel invasion without sarcomatous elements (stage pT2 V1 R0) was made based on typical histomorphological features (Fig. 1A) and detailed immunohistochemical analyses (negative staining: vimentin, actin, desmin, \textalpha-fetoprotein [AFP], beta human chorionic gonadotropin [\textbeta hCG], CD3, CD5, CD20, CD30, CD56, cytokeratin-CAM.5.2, placental/germ cell alkaline phosphatase [PLAP]). Molecular cytogenetic analysis were recently published [1]. Complete staging including abdominal and chest computed tomography as well as determination of tumor markers AFP, \textbeta hCG and lactate dehydrogenase (LDH) revealed no suspicion for metastatic disease. Due to lack of standard treatment and because of histological proven vessel invasion, two cycles of carboplatin monotherapy (400 mg/m\textsuperscript{2}) were administered according to the treatment regimen for classical seminoma at our department.
Follow-up was uneventful (regression of a former unsuspicious 0.7 cm lymph node to 0.3 cm on CT scan) until an enlarged interaortocaval mass of 2.9 cm (Fig. 2) was identified 10 months later. Tumor markers and screening test for Epstein-Barr virus, human immunodeficiency virus and cytomegalovirus were negative. Neither in bone marrow nor in circulating blood cells evidence of lymphoproliferative disease was identified. Orchiectomy specimen was reviewed by the department of pathology and an additional reference center (Department of Histopathology, University College London Medical School, Great Britain) and the initial diagnosis was confirmed. L-RPLND was performed to establish a histopathological diagnosis of the retroperitoneal mass and thereby facilitate management (Fig. 2D).

Fig. 1 – Histology A: primary testicular tumor, typical structure of a spermatocytical seminoma, lymphatic and blood vessel invasion (arrows), H&E. ×100, small picture H&E. ×200. B: tumor tissue in lymph node, H&E ×40, small picture H&E. ×100.
The postoperative course was uneventful. In RPLND specimen metastatic spermatocytic disease was confirmed by the local department of pathology and the reference center (Fig. 1B); subsequently, 2 cycles of adjuvant cisplatin-based chemotherapy (PEB) were administered. This patient is currently free of disease 3 years after chemotherapy.

2. EU-ACME Question

Please visit www.eu-acme.org to answer the below EU-ACME question on-line (the EU-ACME credits will be attributed automatically). The answer will be printed at the end of next month’s Case Study of the Month.

Question:
Which statement concerning spermatocytic seminoma is correct?

A) Spermatocytic seminoma accounts for ~20% of seminomas and is predominately found in patients between 17 and 25 years of age.
B) As in classical seminoma PLAP staining is positive in spermatocytic seminoma.
C) Spermatocytic seminoma originate from an embryonic germ cell and TIN is usually the precursor lesion.
D) Spermatocytic seminoma patients rarely experience metastatic disease, but correct staging and some kind of follow-up appears to be justified.
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References