Resection of the Inferior Vena Cava for Lumbar Metastasis of a Seminoma of the Ovary

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A case of lumbar metastasis of a seminoma of the ovary is presented. Resection of the tumor with the attached inferior vena cava below the right renal vein was carried out, followed by 4000 rad therapy.

The phlebographic study shows the importance of lumbar veins and left gonadal vein in the returning venous blood after the resection of the inferior vena cava.

Fifteen years after the operation the patient is in good physical state. The case is a proof for aggressive surgical management in such conditions.

Seminoma of the ovary is a rare tumor. In a retrospective study covering 27 years, out of 430 ovarian tumors two were seminomas [8]. Contrary to its male counterpart, seminoma of the ovary is considered to be highly malignant [5, 8]. The five-year survival rate in lymph node involvement is 5% [5].

Herein we report on a seminoma of the ovary with retroperitoneal lymph node involvement. Resection of the metastatic tumor was performed with en-bloc resection of the inferior vena cava below the renal veins, followed by radiation therapy. The patient is free of disease 15 years after surgery.

Case report

Patient P. T., 26 years of age, was admitted with a painless right flank mass. One year earlier she underwent surgery elsewhere for a right ovarian tumor. The pathology report of the resected specimen was not available.

Physical examination revealed a well developed, well nourished young woman in no acute distress. There was a fixed hard mass measuring approximately 15 cm in diameter, located in the right flank. System review was noncontributory.

An intravenous pyelogram was interpreted as normal. Laboratory workup was within normal limits with the exception of a 9% eosinophil count, and a Weinberg-Parvu skin test positive for echinococcosis. The preoperative diagnosis was hydatic cyst. On 26 October 1966 the patient was operated. The mass was approached through an extrapleural transabdominal incision (Satinsky) with resection of the 11th rib. To our surprise the mass had a retroperitoneal location.
Following medial mobilization of the colon and duodenum, the mass was exposed. There was a solid, irregular tumor completely surrounding the vena cava below the renal veins and displacing the right kidney cranially. The tumor was then freed from the surrounding tissue with some difficulty and the vena cava was resected from below the renal veins down to the iliac bifurcation and removed en-bloc with the tumor and surrounding lymph nodes (Fig. 1).

Postoperatively the patient was fitted with tight antiembolic stockings and placed in a slight Trendelenburg with elevation of the lower extremities. By the fifth postoperative day she developed a bilateral phlebothrombosis necessitating anticoagulation therapy with Heparin. The patient readily recovered from this episode and had a smooth postoperative course. At no point did she develop edema of the lower extremities. $O_2$% saturation obtained one month postoperatively was the same in the saphenous and precubital venous blood.

Permanent pathology sections showed the tumor to contain large cells with clear cytoplasm and oval nuclei (Fig. 2). Tumor cells were invading the wall of the vena cava (Fig. 3). The pathological diagnosis was metastatic seminoma of the ovary. On review, the same pathology was found in the previously removed ovarian tumor. Following discharge from the hospital the patient received 4000 rads to