Testis Metastasis as an Initial Manifestation of an Occult Gastrointestinal Cancer

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Abstract. Metastatic epithelial malignant tumor involving the spermatic cord and epididymis is rare and the prognosis of these patients is poor. Usually gastrointestinal cancers show diffusion to liver, lung and bone. Several routes by which a colorectal cancer can metastasize to the testis have been reported in literature. Herein we report a case of an occult gastrointestinal cancer with an intrascrotal metastasis in an adult patient with possible spread through the spermatic veins due to primary intestinal carcinoma. In the case of a testicular mass or hydrocele evidence in a patient with an unusual age for primary testis tumor, a diagnosis of metastatic cancer should be considered.

Testis metastases from solid tumors are rare. Colon cancer usually has a diffusion to the regional lymph nodes, liver, lung, bone and brain (1) but rarely to the spermatic cord and/or intrascrotal contents (2).

We report a case of testis metastasis from an adenocarcinoma of occult gastrointestinal cancer associated with a massive spread, occurring as first clinical manifestation.

Case Report

A 62-year-old man had sudden severe dyspnea. At clinical observation he had a reduction of tactile fremitus on the left lung base and evidence of a left testicular mass. A chest X-ray and a total body CT showed multiple metastases in both lungs, left pleural effusion, metastases in the mediastinal nodes and a small brain metastasis; the left testicular solid mass was confirmed by an ultrasound ecotomography (Figure 1a-1b).

The patient was submitted to orchifunicolectomy of the left testis and later to a VATS with subsequent talc pleurodesis after the biopsy of the parietal pleura. Both histologies resulted in metastatic adenocarcinoma, with a moderate differential grading. The immunohistochemistry showed a positivity for cytokeratin 20 and was negative for TTF1, PLAP, alpha-fetoprotein and CD30 (Figures 2-5). A rectum-colonoscopy and a gastroscopy were negative for cancer. Abnormal tumor markers were CA 19-9 (418.4 U/ml), Ca 72-4 (171.8 U/ml), CEA (1163 ng/ml) and AFP (6.5 ng/ml). Therefore, the case was identified as an occult gastrointestinal adenocarcinoma.

The patient was submitted to six courses of chemotherapy with the PELF regimen (Cisplatin 40 mg/mq i.v. day 1; Epirubicin 30 mg/mq i.v. day 1; 5-Fluorouracil 400 mg/mq bolus days 1-2; 5-Fluorouracil 600 mg/mq continuous infusion days 1-2; with G-CSF support on days 6-10-12); cycles were repeated every 14 days. A thrombosis complication of the left femoral and popliteal vein was observed during the last course of chemotherapy. The CT scan performed for the re-staging showed progression of the disease to the brain, abdominal and mediastinal nodes. The patient died 5 months after the completion of chemotherapy.

Discussion

Tumors that may arise from the spermatic cord are rare and nearly all of these are of mesenchymal origin (3). In adults, most tumors of the spermatic cord are malignant and have a sarcomatous origin (4,5).

Involvement of the spermatic cord and epididymis by a metastatic epithelial malignant tumor is rarely the initial clinical manifestation of a tumor which is primary in another tissue, usually the stomach, kidney, prostate and less commonly colon, ileum, appendix or pancreas (6-8).

Secondary spread of malignant tumors in the testis are uncommon and the prognosis of patients with metastatic
tumor of the testis is poor, with a survival of only 9.1 months from diagnosis (7). The occurrence in Peinko’s series was 0.06% (9). It is well known that distant metastasis from gastrointestinal carcinoma usually occurs in the liver and lung; however, metastases to the bone, adrenals, lymph nodes, brain and skin have also been reported (10). Metastasis to the spermatic cord and/or to the intrascrotal contents are generally concomitant with widespread disease, and this finding is extremely rare.

Figure 1a-1b. Large inhomogeneous lesion, with both echogenic and echo-free areas and some fluid corpusculated content with thick profiles within the didymus, is shown. The normal echo texture of testicle is indistinguishable from the lesion and the outline is echogenic with irregular, thick borders. Large sonolucent hydrocele surrounds the testicle.

Probably, the most important reason for the rarity of secondary localization in the testis is the relatively low temperature of the scrotum leading to an unfavorable
environment for the development of metastases (11). Therapeutic orchiectomy would lead to the histological diagnosis of previously unsuspected secondary deposits.

There are several routes by which colorectal carcinoma metastasizes to the testis. These include: a) retrograde venous extension or embolism, b) retrograde lymphatic extension, c) arterial embolization and d) direct tumor invasion. Many reported cases seem to support the concept of retrograde lymphatic spread (12,13). However Bodon et al. also favored spread through the spermatic veins in the case of primary gastrointestinal carcinomas, due to direct extension of tumor via the retroperitoneum (14). The spermatic veins are held to be the most likely route of spread from carcinoma of the left kidney (15). Recently, Wishami et al. reported an anatomic study of spermatic veins and demonstrated: a) communication between the spermatic and renal capsular veins, spermatic and ipsilateral colonic veins; b) cross-communications between the right and the left spermatic veins; c) absence of valves in spermatic veins. These observations may help to explain retrograde venous spread from both kidney and colon (16).

Our case shows that, in both testicular mass and hydrocele in patients with an unusual age for a primary testis tumor, a clinical diagnosis of metastatic cancer should be considered, especially if the clinical findings suggest the involvement of others organs(17).
References