

Epididymal metastasis from gastric signet ring cell adenocarcinoma

Ö. L. Özdal, MD,¹ Y. K. Yakupoglu, MD,¹ A. Çiçek, MD,¹ Ö. Erdem, MD,² L. Memis, MD,² A. Memis, MD¹

¹Department of Urology of Ankara Numune Education and Research Hospital, Ankara, Turkey.

²Department of Pathology of Gazi University, Ankara, Turkey

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We report a 55 year old man complaining of painless left testicular swelling that developed over 2 months. The

imaging studies revealed an epididymal mass separate from the testicle. The patient underwent left radical orchiectomy. The histopathological examination of the orchiectomy specimen revealed poorly differentiated signet cell metastatic adenocarcinoma.

Key Words: gastric adenocancer, epididym, metastasis

Introduction

Metastatic carcinoma of the testis is not frequent, and metastasis to the epididymis is rare. Primary tumors of epididymis are also rare but more frequent than metastatic tumors. The primary sites reported include the kidney, stomach, ileum and sigmoid colon.¹ The most frequent primary tumors metastatic to the spermatic cord and epididymis are carcinomas from the stomach (42.8%) and the prostate (28.5%). Of these metastases 23.8% are subclinical and when discovered the wrong diagnosis always concerns the origin of the primary tumor. In 47.7% of the cases, the metastases and the primary tumor are found simultaneously. The

average survival time, subsequent to the diagnosis of the metastasis is 9.1 months.²

Case report

A 55 year old man was referred to our clinic complaining of painless left testicular swelling, which developed in 2 months. On physical examination of the left testicle, a non-tender, solid mass separate from the testis, measuring 10 mm in diameter was palpated. No inguinal lymphadenopathy was detected. Complete blood count, blood biochemistry, serum alpha-feto protein, beta-human chorionic gonadotropin, carcino-embryonic antigen, prostate specific antigen and Ca 19-9 levels were in the normal range. Urinalysis and chest x-ray were reported as normal. A purified protein derivatives test was negative. Scrotal ultrasonography revealed a hyperechoic left epididymal mass, 11 mm in diameter, separate from the testis. The computerized tomography of the thorax and abdomen did not detect

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Address correspondence to Levent ÖZDAL, M.D. Fellow of Urology, Montreal General Hospital, McGill University, 2050 Maisonneuve West, #902, Montreal, Quebec H3H 1K7 Canada

any site of primary disease. Under spinal anesthesia, the patient underwent a left radical orchiectomy because of a probable epididymal tumor. The specimen revealed poorly differentiated signet ring cell metastatic adenocarcinoma Figures 1a, 1b. The patient underwent gastric resection because of gastric cancer, which was detected by gastroscopy.

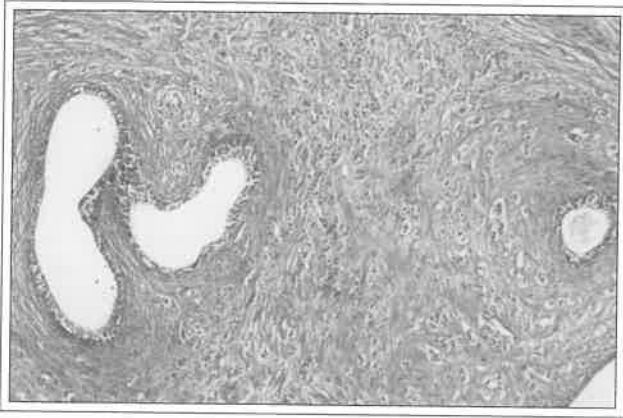


Figure 1a. Small cluster or cords of infiltrating uniform-sized tumor cells between epididymal glands. Hematoxylin-eosin stain, X200.

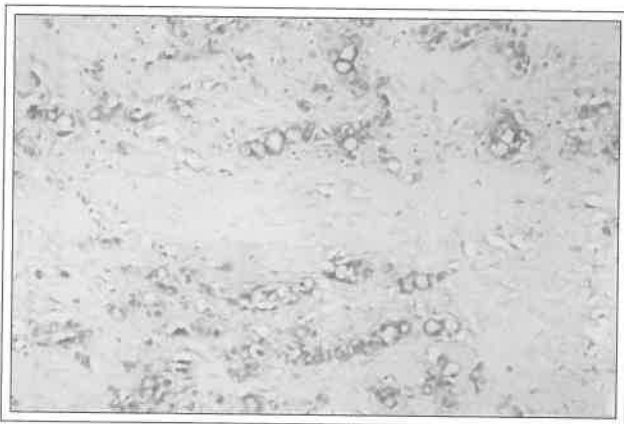


Figure 1b. Infiltrating tumor cells show abundant intracytoplasmic mucin, giving the cells typical "signet ring" appearance. Mayer's mucicarmin stain, X400.

Discussion

Secondary cancers of the epididymis are uncommon in spite of the rich vascularity of this organ. The paucity of reports of metastasis in this area can only be partially accounted by the failure to closely examine the genitals during routine follow-up of cancer patients or at the time of autopsy.

In the literature, few cases of gastric cancer with epididymal metastasis have been reported. A 1983 review of the literature by Alagaba and associates described 15 cases of epididymal metastasis; the primary site was in the gastrointestinal tract and genitourinary tract in six cases.²

Metastasis to the epididymis is rare. Approximately 25% of epididymal tumors are malignant and 30% of malignant tumors are metastatic in origin.³

Four major mechanisms have been proposed to account metastases to the epididymis. These are direct extension,^{4,5} retrograde venous extension⁶ and arterial embolism.⁷ Intraductal spread via the vas deferens has also been proposed as a potential route of metastases.⁸ It is stated that tumor embolization by the way of the vertebral veins might explain some cases of metastatic tumor of the epididymis. Furthermore retrograde extension by the way of the lymphatics might occur following invasion and obstruction of the lymph stream by a tumor since theoretically there is a retrograde or reversed flow of the lymph stream secondary to blockage.⁹

High inguinal orchiectomy is performed as the preferred treatment. The procedure is well tolerated and can be done under regional anesthesia. Further treatment usually depends on the site and extent of the primary tumor.

In our case we believe that the routes of metastasis mentioned above to the epididymis are the possible mechanisms considering gastric signet cell adenocarcinoma behavior. It is also important to include secondary malignancies of epididymis in the differential diagnosis and to perform a thorough examination of the scrotal contents in male cancer patients with genitourinary symptoms. □

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