

# Unilateral ascendant chain metastasis of a primary prostate adenocarcinoma to seminal vesicle, epididymis and testis

Primer prostat adenokarsinomunun seminal vezikül, epididim ve testise tek taraflı zincir metastazi

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## Abstract

Testicular and/or epididymal metastasis of prostate carcinoma is a rare clinical phenomenon. In this study, a 60 year old man suffers from primary advanced prostate carcinoma with a unilateral reflux metastasis to the seminal vesicle, epididym and testis was presented. We suggest standard total trans-scrotal or radical orchiectomy rather than subcapsular orchiectomy for the androgen depletion as endocrine treatment in clinical metastatic prostate carcinoma which let to investigate the paratesticular structures.

**Key words:** Prostate carcinoma, metastasis, testis, epididym

## Özet

Prostat karsinomunun testis ve/veya epididime metastazi nadirdir. Bu çalışmada, ilerlemiş primer prostate kanserli, tek taraflı seminal vezikül, epididimis ve testise reflüks metastazlı 60 yaşındaki bir hasta sunuldu. Klinik metastatik prostate karsinomunda, endokrin sağaltım olarak, subkapsüler orşiektomi yerine paratestiküler yapıların incelenmesine olanak sağlayan standart total trans-skrotal veya radikal orşiektomi öneriyoruz.

**Anahtar Kelimeler:** Prostat karsinomu, metastaz, testis, epididim

## Introduction

The first distant metastatic site for prostate carcinoma is pelvic lymph nodes and skeleton system especially to the pelvic and vertebral bones. Lungs are the most common parenchymatous metastatic site of prostate carcinoma and usually clinically asymptomatic (1). Although metastasis involvement of the testis as form prostate carcinoma is extremely rare, urologists have been similar this kind of case reports since 1938 (2) and epididymal involvement either with testicles or solitary was reported in about ten cases. Tu et al. in a more recent report showed that the most patients' pathologic reports were ductal adenocarcinoma, a rare aggressive subtype of prostate carcinoma in a group of 12 patients with prostate carcinoma and testicular or penile metastases (3). The ductal lymphatics and direct local invasion through the lumen was accused as the spreading way (4). In this case, we present a metastatic high grade prostate adenocarcinoma with a unilateral reflux metastasis to the epididym and testis that had been determined incidentally in the orchiectomy material performed for androgen deprivation therapy and suggests standard total trans-scrotal or radical orchiectomy rather than subcapsular orchiectomy for these patients.

## Case Report

A 60-year-old male presented with lower urinary tract symptoms for six months. Previous and family histories were insignificant except chronic obstructive lung disease. Gentiourinary examination was normal apart from the digital rectal examination (DRE) that revealed a diffuse firm prostate with a nodule on the right side extended to the

ipsilateral seminal vesicle (SV). Total and free Prostate specific antigen (PSA) levels were 100 and 50 ng/ml respectively. An anemia was present with hemoglobin 7.7 g/dl. Transrectal ultrasonography confirmed the SV extension and guided needle biopsy of the prostate was reported as Gleason 9 adenocarcinoma. Pelvic lymph nodes positive on computerized tomography and Chest X-ray showed metastatic lesions. Bilateral standart orchiectomy was selected as the androgen blockage therapy. In pathologic examination, spesimen consists of 7x5x3 cm diameter testis and 2x2 spermatic cord. Serial section revealed poorly circumscribed 2x1, 5 cm diameter, solid, soft, white-yellowish colored area testis and epididymis adjacent to testis. On microscopic examination, neoplastic cells and mix inflammatuar cells are shown in epididymal duct lumina. The cells destruct epididymal duct and invade stroma (Fig. 1A). Neoplastic cells have abundant amphophilic cytoplasm and enlarged pleomorphic nuclei. Neoplastic and inflammatuar cells invade epididymal stroma, surrounding structures and testis (Fig. 1B). With immunohistochemical techniques, tumor cells show positive reaction for PSA (Syctek Lab, rabbit polyclonal (A00035-IFU) (Fig. 2).

## Discussion

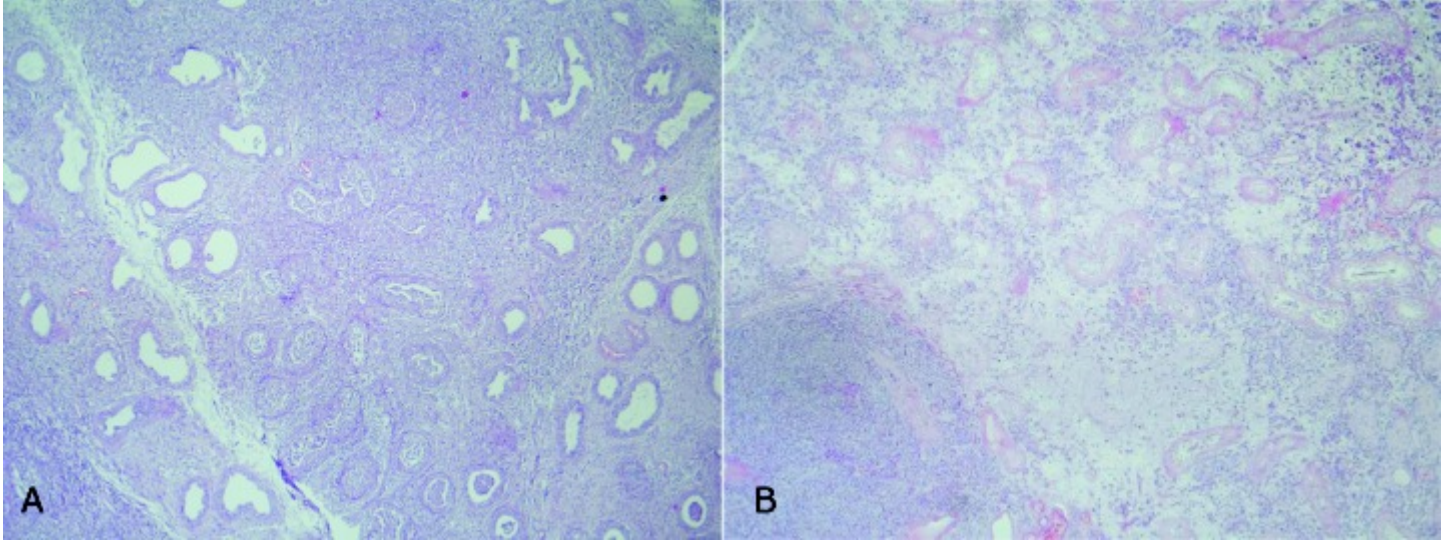
Testicular metastasis as a rare site of prostate adenocarcinoma represents an advanced prostate carcinoma and the most published cases were in the past years when the bilateral orchiectomy was the only treatment option. Kirkali et al. suggested the route of spread through the lumen and/or lymphatics of the vas deferens (4). However we think that reflux through the lumen is more possible because our patient had concomitant testis and epididymal involvement in the histologic

evaluation and also ipsilateral local extension to SV in DRE suggesting a retrograde metastatic chain process.

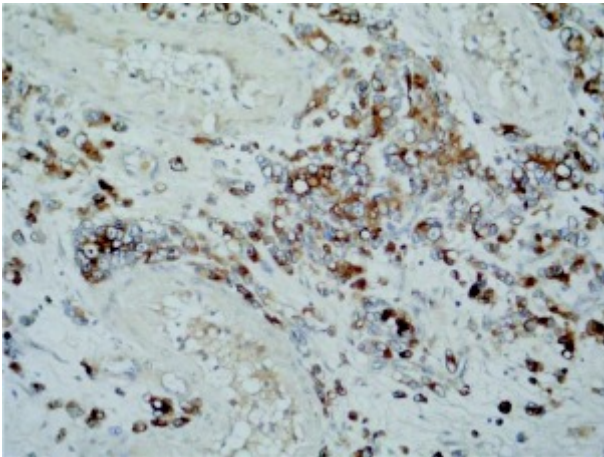
Tu et al. reported ductal adenocarcinoma as a rare aggressive subtype of prostate carcinoma with an incidence of 0.4-0.8% should be more frequent in testicular metastasis (1-3). These carcinomas were generally underestimated due to the reason that the serum PSA and DRE may be normal (1). However our patient had histology of classic Grade 9 adenocarcinoma with a high PSA level and positive DRE.

This case with the involvement of the SV, epididym

and the testicular metastasis of prostate carcinoma is confirming the possibility of local metastatic chain process. Thus clinicians take into account that subcapsular orchiectomy, for the androgen depletion as endocrine treatment for metastatic prostatic carcinomas, carries some risks about the skipping the chance of the true local extension of prostate carcinoma and we suggest standard total trans-scrotal or radical orchiectomy that includes epididym to evaluate the borders of the local metastasis, although the prognostic significance of intrascrotal localization is undetermined.



**Figure 1. A:** Neoplastic cells and mix inflammatuar cells are shown in epididymal duct lumina. The cells destruct epididymal duct and invade stroma (H+E x 40). **B:** Testicular metastasis of prostatic adenocarcinoma is shown (H+E x 100).



**Figure 2.** Tumor cells show positive reaction for PSA. (x 200)

*Yazarlarla ilgili bildirilmesi gereken konular (Conflict of interest statement) : Yok (None)*

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