

## Adenosquamous Carcinoma of the Prostate: A Rare Aggressive Tumor with a Review of the Literature

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### ABSTRACT

Adenosquamous carcinoma (ASCC) of the prostate is an extremely rare, aggressive neoplasm with only few cases are reported in literature. Till now, it has no well-established therapeutic guideline. Here we are reporting a case of this rare entity and a review of literature for its management.

### KEY MESSAGE

Adenosquamous cell carcinoma (ASCC) of the prostate is an extremely rare, aggressive tumor associated with a poor prognosis.

### INTRODUCTION

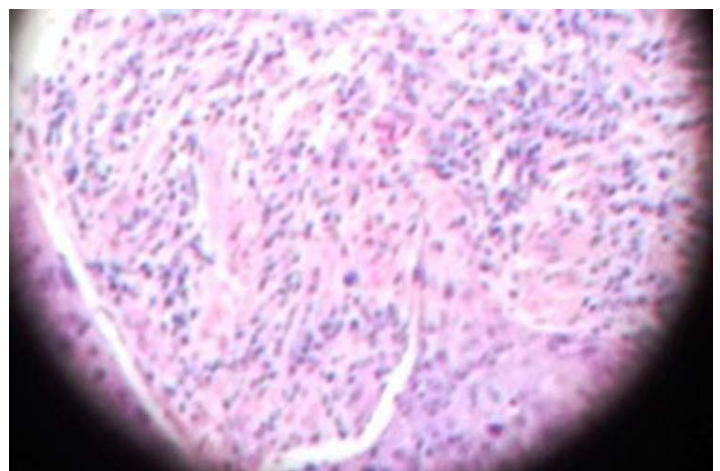
Adenocarcinoma of the prostate gland is the most common malignant tumor affecting adult males [1]. Among other rare histological variants of carcinoma of the prostate—such as clear-cell carcinoma and small-cell carcinoma—adenosquamous carcinoma of the prostate is an extremely rare neoplasm associated with a poor prognosis [2]. Till now, there is no well-established guideline for the treatment of adenosquamous carcinoma. Here we are reporting a case of this rare entity and a review of literature for its management.

### CASE HISTORY

A 65-year-old male patient presented with poor urinary flow and increased urinary frequency. On examination, the bladder was not palpable. The external genitalia were normal but the prostate was non-tender, enlarged with an obliterated median sulcus (grade III), hard, and nodular. His urine analysis and blood biochemistry, including serum PSA (1.07 ng/ml), were normal. Ultrasonography revealed a prostate size of 68 gm with non-homogenous texture and post-void residual urine of 110 ml. After 12 transrectal ultrasonogram-guided prostatic

core biopsies, the final impression came out as adenosquamous carcinoma of the prostate (Figure 1). On further evaluation with a computed tomography (CT) scan, the prostate was heterogeneous with no discrete lesions. The irregular margin and tissue plane, including adjacent organs, were obliterated. A bone scan was normal. On radiotherapy consultation, taxane-based chemotherapy was given, but unfortunately the patient did not receive the next cycle and died in 1 month.

Figure 1. A low-power view of a prostate core biopsy showing squamous-cell carcinoma with a glandular component.



**KEYWORDS:** Adenosquamous, carcinoma, prognosis, treatment

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## DISCUSSION

ASCC is defined by the presence of both glandular (acinar) and squamous components [1-3]. Since the first description by Thompson, approximately 33 cases of ASCC of the prostate have been reported [3-8]. Of all ASCC cases reported in the literature, two-thirds involved patients previously treated for prostatic adenocarcinoma with hormones and/or radiation [3,4-8]. The timeframe for the appearance of squamous differentiation in the carcinoma varies from 3 months to many (up to 9) years after therapy. The remaining one-third of patients had no history of prostate cancer or hormonal therapy [4]. However, the present case lacks this history, suggesting that the 2 types of epithelia may have developed concurrently.

There are several theories to explain the histogenesis of ASCC of the prostate: 1) metaplastic transformation of adenocarcinoma cells [5,6], 2) a collision-type tumor, 3) ASCC derived from pluripotent stem cells capable of multidirectional differentiation [5], or 4) a more plausible explanation would be clonal evolution/divergence of persistent carcinoma, secondary to the selective pressure of therapy, for ASCC occurring after radiation or androgen deprivation therapy [5]. Prostatic ASCC, like glandular adenocarcinomas, can spread along nerves; extend locally into periprostatic soft tissue, the bladder, and seminal vesicles; and metastasize to lymph nodes and bones [6-8]. However, in bones, the metastases are routinely osteolytic rather than osteoplastic. In widely disseminated disease, metastatic deposits have been detected in the peritoneum, diaphragm, liver, and lungs. Clinically, these patients often present with bladder outlet obstruction and dysuria, and are quite large. The prostate-specific antigen (PSA) level may or may not be elevated depending on the squamous component. The digital rectal examination (DRE) is usually positive. Diagnosis is confirmed by transrectal ultrasonography- (TRUS) guided prostatic biopsy. Glandular and squamous components could be distinct or could show direct transition. The Gleason score can be used for the glandular component, but not for the squamous component, of ASCC. The adenocarcinoma element is often high-grade, while the grade of the squamous portion is variable [5].

Since there is no clinical trial specifically designed for ASCC of the prostate, the optimal treatment strategy has not been established. Radical prostatectomy, radiation therapy, or chemotherapy have been used alone or in combination. Radical prostatectomy should be offered to those with localized prostate cancer, including healthier elderly patients with a good performance status. Some authors suggested that ASCC of the prostate responds, at least initially, to hormone therapy [4,6,7] while others reported that these tumors generally were refractory to hormone therapy [7]. However, information on response and efficacy of chemotherapy is lacking.

The prognosis for patients with ASCC is very poor, even in those patients with localized disease who subsequently underwent prostatectomy, suggesting this is a disease with a propensity for early microscopic dissemination. The 5-year cancer specific survival rate of 30.3% was significantly lower compared to the 99.9% survival rate of prostate cancer as a whole [4,6-8].

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