# SIGNET RING CELL PROSTATE CARCINOMA: AN AGGRESSIVE HISTOLOGIC VARIANT


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**Background:** Signet ring cell prostate cancer (SRCC) is a rare histotype of neoplasm occurring in less than 2,5% of all prostatic tumors. It is considered as an aggressive variant of high-grade prostatic adenocarcinoma with poor prognosis and limited life expectancy. Data in the literature are limited: no recommended treatments have been established to date. We report the case of a signet-ring cell prostate cancer treated with a combination of external beam radiotherapy and total androgen blockade.

**Patient and Methods:** A 78-years-old caucasian male presented to our facility for PSA raising. On past anamnesis he suffered from myocardial infarction, arterial hypertension and mild chronic renal failure. He was also on medication with adrenergic a1-antagonist for a benign prostatic hyperplasia condition with a post residual void volume of 60 centiliters and IPSS 10. Since many years he has been followed for a PSA raising history: he previously underwent two ultrasound-guided prostatic biopsies which resulted negative for prostate carcinoma. Moreover, no familiarity for prostate cancer was referred by the patient. His last PSA resulted further increased with a value of 67,5 ng/ml. General and systemic examination was unremarkable: no bone pain, asthenia or weight loss were referred. Digito-rectal exploration revealed an enlarged and stony hard prostate expecially on the right lobe. The patient underwent a third prostate biopsy.

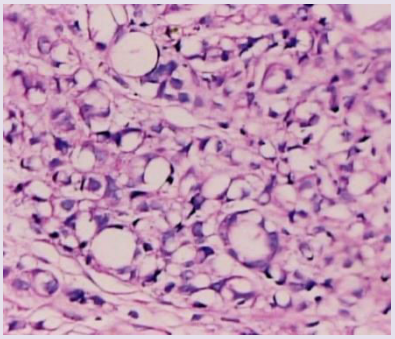

**Figure 1.** The microscopic finding of signet ring cell prostate carcinoma (original magnification x400)

**Results:** Pathology demonstrated an Gleason Score 10 adenocarcinoma with signet ring cell features affecting 25% of specimens (Figure 1). On immunophenotypic analysis the tumor was negative for synaptophysine which frequently results positive in neuroendocrine tumours. An abdominopelvic contrast enhanced CT and total body bone scan was performed; surprisingly no visceral secundarisms nor bone metastases or enlarged lymph nodes were identified. Due to patient's age and comorbilities, he elected to undergo a combination of radiotherapy and long term hormonotherapy.

**Discussion and Conclusions:** Signet ring cell cancer is an aggressive histological variant. The term "signet ring" describes a tumor cell characterized by compression of the nucleus into the form of a crescent by a large cytoplasmic vacuole. It can affect different organs. Primary signet ring cell carcinoma of the prostate (SRCC) is extremely rare and to date approximately 60 cases have been reported. It's considered a variant of high-grade prostatic adenocarcinoma with poor prognosis and limited life expectancy. Few data are available in the literature regardeless of histological classification. Gleason Score sum of 9 or 10 is typical and frequently associated to visceral or bone spreading risk. PSA has historically been used as a marker of pathology but cases with normal values have been described. Digito-rectal exploration is frequently suspicious; only histology makes diagnosis. Treatment involves different options. Surgery, irradiation, chemotherapy or combinations should be offered first while hormonotherapy alone should be avoided since many authors reported it may be uneffective in this histotype. According to the patient's age, Karnofsky performance status and comorbidities, we suggested a combination of radiotherapy and hormonoterapy. Serum levels of PSA rapidly decreased showing a value of 0,01 ng/ml at three months: no radiological progression was observed on CT during follow up at 3 and 6 months.

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