Basaloid carcinoma of urinary bladder: an uncommon type of bladder cancer: a case report

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ABSTRACT

Background: The basaloid carcinoma has not been previously described in the urinary bladder.

Case presentation: A 61-year-old man presented with hematuria. The patient had a history of skin tumor with 37 basal cell carcinomas, which had often been treated with surgical excision. The cystoscopy showed a superficial 6 mm papillary lesion. A transurethral resection (TUR) instillation was performed, and the histological analysis revealed an invasive basaloid carcinoma *pT1.* Because of this uncommon histological aspect, a second Look TUR was conducted and showed no tumor and was followed by an intravesical Bacillus Calmette-Guerin therapy. Knowing the patient presented two major aspects of the Gorlin Syndrome, a genetic analysis of patched mutation had been done but showed no mutation of the gene. After 5 years of cystoscopy follow-up, the patient presented no recurrence of the tumor in the bladder.

Conclusion: The basaloid carcinoma is an exceptional variant tumor in the urinary bladder.

Keywords: Basaloid carcinoma, urinary bladder, PTCH gene, urinary bladder neoplasm, histological variant.

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Background

The basaloid squamous cell carcinoma is a rare tumor which frequently occurs in the ENT sphere but also in the esophagus, lung, anus, uterus, cervix, and skin [1]. A few cases of basaloid squamous cell carcinoma have been reported in the bladder [2].

The basaloid carcinoma has been described in lungs [3], prostate [4], pancreas [5], colon, thymus, and salivary gland. Nevertheless, no cases of basaloid carcinoma were found in the bladder in our bibliographic research. In this case, our patient presents a basaloid tumor without any squamous differentiation.

Case presentation

A 61-year-old man was admitted to our ward with isolated terminal hematuria. The patient was a retired optician with a history of having a high level of solar exposition during his childhood. He had hypertension and diabetes mellitus type 2 which was treated by oral antidiabetic medication. The Gorlin Syndrome was suspected of the patient. Indeed, the patient had presented 37 BCC's (Basal Cell Carcinomas) since 2003 including superficial BCC's (27) or Nodular BCC's (7) located most frequently on his face (26) but also on his legs (7), hair (3), and loins (1). The BCC's has been treated either with surgical excision or with cryosurgery. Cleft lip, hydrocephalus, as well as other congenital malformations were absent from the patient's medical history. Signs of BCC's were noticed among maternal relatives of the patient. The presence of BCC was noted in the medical history of his maternal uncle, maternal aunt, and his mother who also had a palpebral cyst noted in her medical history.

The cystoscopy showed a superficial 6 mm papillary lesion on the right side of his bladder suggesting a urothelial carcinoma. Ensuing the discovery of a lesion, a transurethral resection (TUR) followed by an ametycine instillation. The resected specimen was sent for histopathological analysis and revealed an invasive basaloid carcinoma pT1 not infiltrating the muscle.

The tumoral lesion consisted of a group of cells with basaloid aspect, many cytonuclear atypia and abundant mitosis (Figures 1 and 2). A mild fixation was found with an anti-Cytokeratin 5 and 6 antibodies as well as a high fixation with anti-P40 antibody. The growth fraction determined with Ki-67 antibody labelling was around 30 % (Figure 3).

Because of the unusual histological appearance, a second-Look TUR was performed with a resection of the previously excised area with a 1 cm resection margin. The histopathological analysis showed only inflammation lesions without tumor cells. The patient continued the

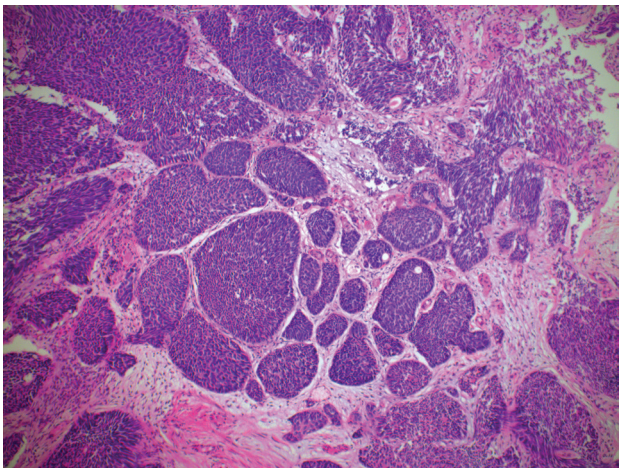

Figure 1. *HES coloration optical zoom x 50.*

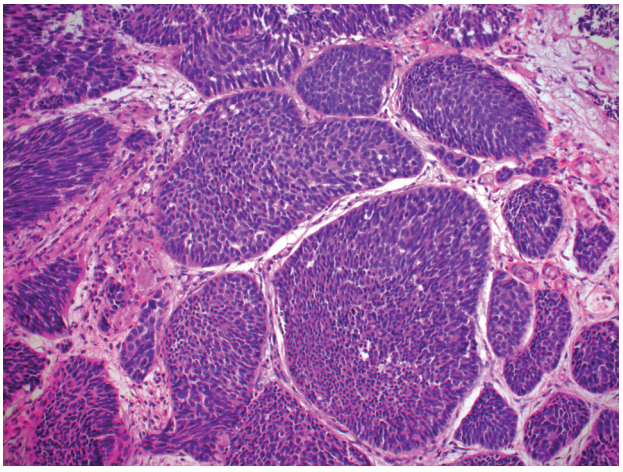

Figure 2. *HES coloration optical zoom x 200.*

treatment with an intravesical Bacillus Calmette-Guerin (BCG) therapy.

Due to the suspicion of the Gorlin Syndrome, the patient was also examined in the dermatologic department. The clinical examination showed a thoracic rash associated to angiomas and telangiectasias. Those lesions were also shown visible on the upper limb. The patient presented the characteristics of phototype I. He had no palmo-plantar pits, no signs of facial dysmorphism or skeletal abnormalities were noted.

Since the patient presented two major criteria of the Gorlin Syndrome, a genetic analysis of patched (PTCH) mutation had been realized but had showed no mutation of the gene.

After a cystoscopical follow up of 5 years, the patient did not show any recurrence of the tumor in the bladder.

Discussion

Considering the assumption of the Gorlin Syndrome, we initially supposed this tumor could be an exceptional manifestation of the Gorlin Syndrome.

The Basal Cell Naevus Syndrome, also known as the "Gorlin Syndrome" is an inherited condition caused by a mutation in a tumor suppressor gene located on 9q22.3-31: PTCH. The main clinical manifestations include multiple BCC's, odontogenic keratocytes, hyperkeratosis of palms and soles, skeletal abnormalities, ectopic intracranial calcifications, and facial dysmorphism.

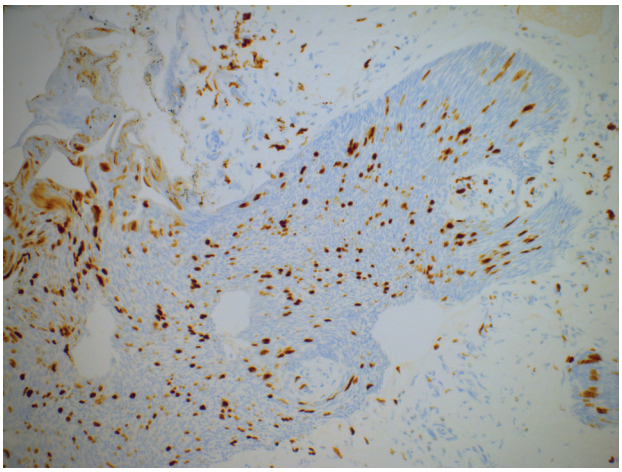

Figure 3. *Ki67 labelling.*

The genetic justification for the suspicion of the bladder tumor as a manifestation of the Gorlin Syndrome was based on the fact that the chromosome 9 is the most rearranged chromosome in bladder cancer: from 50 up to 80% of bladder cancer cells show a loss of heterozygotie of chromosome 9 [6]. Simoneau et al. [7] demonstrated that 9q22 region is a candidate for a tumor suppressor locus in bladder cancer. McGarvey et al. [8] detected two mutations in the PTCH gene among 54 invasive transitional cell carcinomas of bladder [8]. Moreover, Pignot et al. [9] observed under-expression of PTCH 1 gene in 31% of tumor samples of bladder cancer.

Even if our patient showed no mutation of PTCH gene, we could presume the possibility of a link between his skin tumors and his bladder tumor in reason of the similarity of their histology.

It would have probably been interesting to search in our patient for other mutations of genes involved in the pathogenesis of the tumor.

Conclusion

The basaloid carcinoma may be a rare variant of urinary bladder carcinoma, especially in patients with a medical history of recurrent Basal Cell Carcinoma of the skin.

What is new?

Few cases of basaloid squamous cell carcinoma have been described in bladder through some case reports. In this case, the patient presents a basaloid tumor, without any squamous differentiation. To our knowledge, it is the first case in the literature

List of Abbreviations

BCC	Basal cell carcinoma
PTCH	Patched
TUR	Transurethral resection

Funding
None.

Conflict of interests
The authors declare that there is no conflict of interests regarding the publication of this case report.

Consent for publication
Written informed consent was taken from the patient.

Ethical approval
Ethical approval is not required at our institution for publishing an anonymous case report.

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Summary of the case

1	**Patient (gender, age)**	Male, 61 years old
2	**Final diagnosis**	Basaloid carcinoma of bladder
3	**Symptoms**	Hematuria
4	**Medications**	BCG therapy
5	**Clinical procedure**	Transurethral resection of bladder tumor
6	**Specialty**	Urology, oncology