Indian Journal of Medical Case Reports ISSN: 2319–3832(Online)
An Open Access, Online International Journal Available at http://www. cibtech.org/jcr.htm
2015 Vol. 4 (2) April-June, pp.12-15/Dowerah and Chhetri
Case Report

URACHAL CARCINOMA OF SQUAMOUS CELL TYPE: A CASE REPORT

[*]Swagata Dowerah[1] and Anjalee Chhetri[2]
[1]Department of Pathology, Assam Medical College, Dibrugarh
[2]Fortis Escorts Hospital & Research Centre, Faridabad
**Author for Correspondence*

ABSTRACT
Urachal carcinoma is an uncommon neoplasm associated with poor prognosis. While adenocarcinoma is common among urachal carcinomas, whereas squamous cell carcinoma (SCC) is very rare. A 54yrs male presented with painless hematuria and abdominal pain for 3months. CT scan detected a mass lesion in the dome of the bladder and a diagnosis of urachal carcinoma was suggested. A partial cystectomy was performed. On HPE, a poorly differentiated carcinoma was seen invading muscle layer. A diagnosis of poorly differentiated carcinoma of bladder invading muscle was given. On IHC, the tumor was positive for Pan CK, CK7, Anti p63; Ki 67 was 10-12% positive with only focal areas showing CK 20 positivity. A diagnosis of squamous cell carcinoma was made. In view of radiological, HPE and IHC findings, a diagnosis of urachal carcinoma of urinary bladder of squamous cell type was given. Primary squamous cell carcinoma of the urachus is rare. This case was reported for its rare histologic type and to emphasise the role of immunohistochemistry in difficult cases.

Keywords: *Urachal Carcinoma, Squamous Cell*

INTRODUCTION
Urachal carcinoma is an uncommon neoplasm associated with poor prognosis. The estimated annual incidence of urachal carcinoma in the general population is one in 5 million, or 0.01% of all cancers in adults. Urachal carcinoma has been estimated to comprise 0.17-0.34% of all bladder cancers (Sheldon *et al.*, 1984).
Neoplasms arising from urachal remnants are usually adenocarcinomas and the account for as much as 22% to 35% of vesicular glandular neoplasms (Johnson *et al.*, 1985; Jaske *et al.*, 1978). Squamous cell, usual urothelial cell and anaplastic carcinomas also arise from the urachus (Ghazizadeh *et al.*, 1983). While adenocarcinoma is common among urachal carcinomas, whereas squamous cell carcinoma (SCC) is very rare. We report a case of primary squamous cell carcinoma of the urachus.

CASES
A 54yrs male presented to the urology OPD with painless hematuria and abdominal pain for 3 months. CT scan detected a mass lesion in the dome of the bladder and a diagnosis of urachal carcinoma was suggested. Routine laboratory examinations of the patient were normal except for a Hb of 8g% and normocytic normochromic anemia on peripheral smear. Liver function tests and renal function tests were within normal limit. No other focus of malignancy was seen after thorough clinical and radiological examination. Lymph nodes were not palpable.
A partial cystectomy was performed (Figure 1). On histopathological examination, a poorly differentiated carcinoma was seen invading muscle layer (Figure 2). The tumor was distinct from the lining of the bladder which was histologically normal.
Perivesical fat and nodes were uninvolved by the tumor. A diagnosis of poorly differentiated carcinoma of bladder invading muscle was given (Figure 3) and immunohistochemistry was advised. On IHC, the tumor was positive for Pan CK, CK7, Anti p63; Ki 67 was 10-12% positive with only focal areas showing CK 20 positivity. A diagnosis of squamous cell carcinoma was given. In view of radiological, HPE and IHC findings, a diagnosis of urachal carcinoma of urinary bladder of squamous cell type was given. The patient subsequently underwent radical cystectomy.

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DISCUSSION

The urachus is a thick tube like structure that is formed in the embryo as the allantois involutes. It extends from the bladder dome to the umbilicus. After birth it becomes a fibrous cord called the median umbilical ligament. If remnants of the allantois remain within the ligament, they develop into cysts as well as epithelial neoplasms (Reuter).

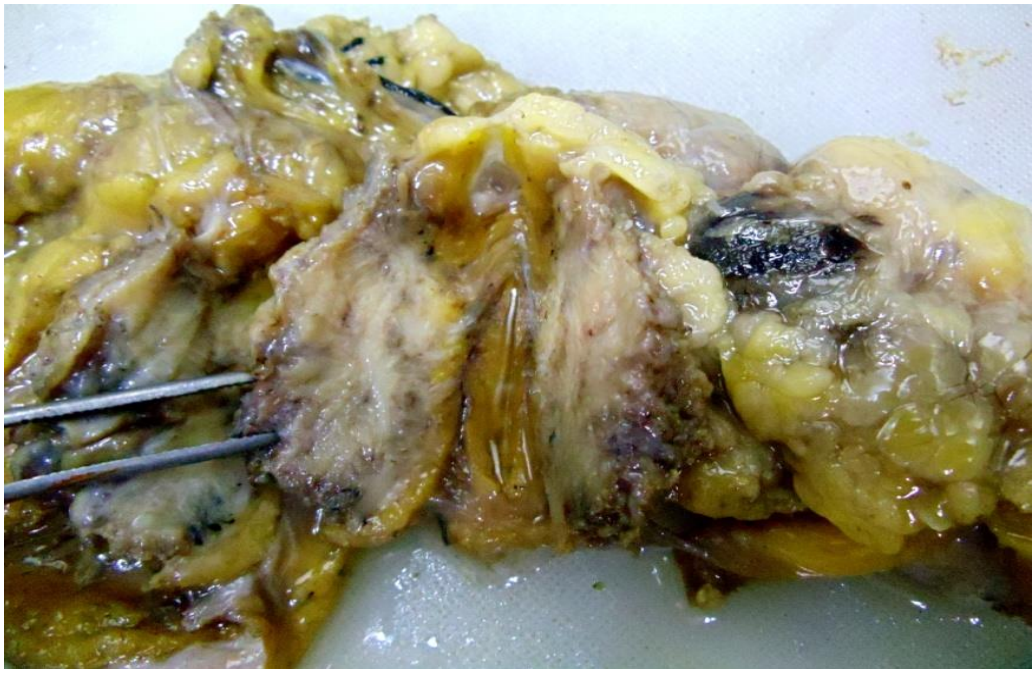

Figure 1: On gross examination, a solid tumor mass is seen involving the dome of the bladder

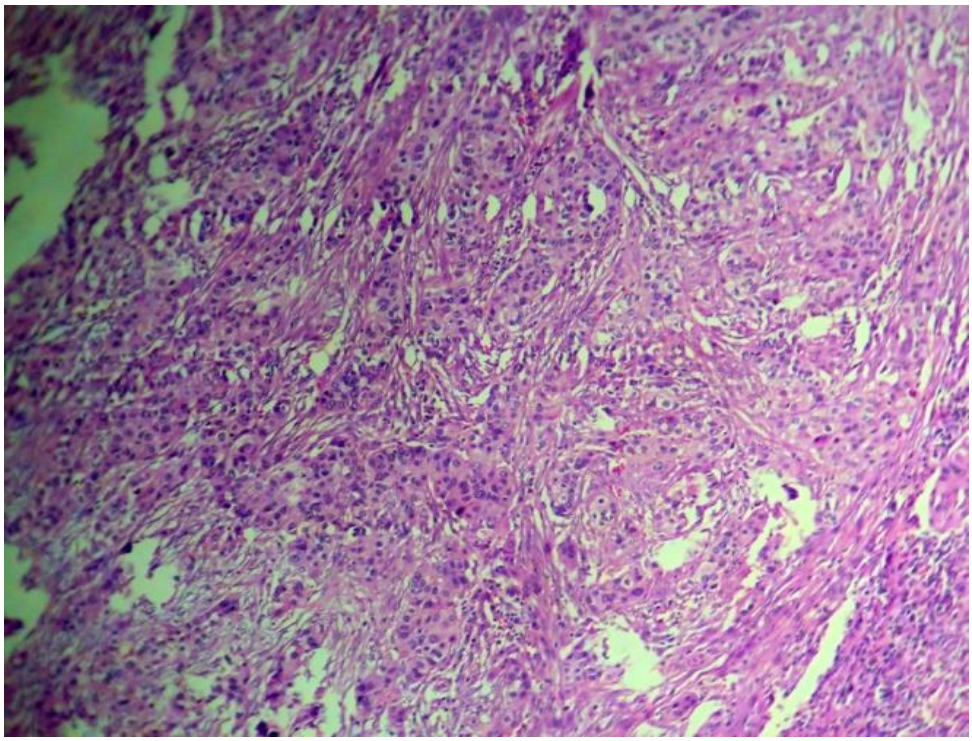

Figure 2: Showing tumor cells infiltrating muscle layer

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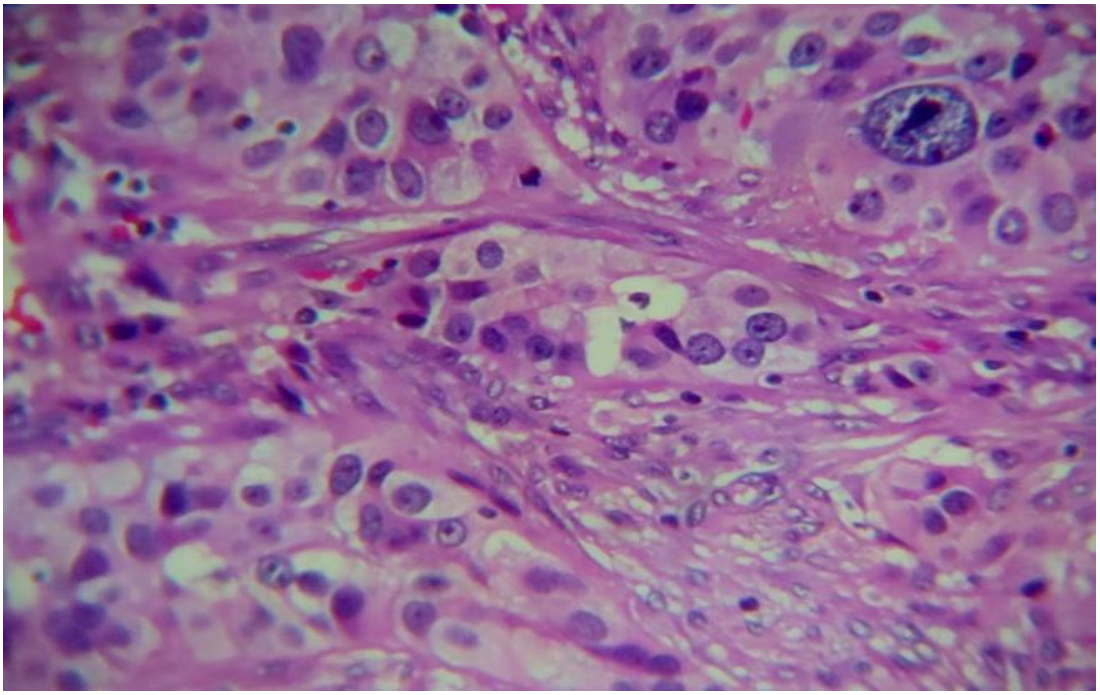

Figure 3: Showing highly pleomorphic tumor cells in nests and cords (Higher Magnification)

Urachal cancer was first described in 1863 by Hue and Jacquin in a report translated and summarized by Sheldon. Although this tumour has now become a recognisable 'neoplastic entity', its origin and pathophysiology remain unknown (Mostfi *et al.,* 1955). The estimated annual incidence of urachal carcinoma is 0.01% of all cancers in adults. The incidence of the disease ranges from 0.55 to 1.20% of bladder tumors in Japan and 0.07-0.70% of bladder tumors in Western countries. Squamous cell carcinoma of the urachus was first described in 1870 by Hoffmann, as cited by Schwarz (Schwarz *et al.,* 1912). According to several reviews of urachal carcinoma, the incidence of SCC is very rare; 2% of cases (Sheldon *et al.,* 1984; Jimi *et al.,* 1986; Ashley *et al.,* 2006).

Because the urachus is usually found along the free surface of the bladder, urachal carcinoma is frequently amenable to partial cystectomy. Several criteria must be met to establish the diagnosis (Mostfi *et al.,* 1955). Bladder involvement by the tumor should be localized to an area usually at or near the dome, in relation to the median umbilical ligament. The overlying bladder urothelium may be ulcerated but no CIS or glandular metaplasia is present. Rarely will the urachal tumor communicate directly with the bladder surface. On sectioning, the tumors are either intramural or extramural,with involvement of the median umbilical ligament which should be identified if at all possible. In our case, the tumor was seen localized to the bladder dome with intramural involvement of the bladder. The overlying bladder urothelium was seen separate from the tumor and of normal histology with no evidence of CIS or glandular metaplasia. Though adenocarcinoma is the most common type of urachal neoplasms, in our case, the tumor was a squamous cell carcinoma.

The prognosis of SCC seems to be poor, as is the case with usual urachal carcinoma. 2 It is believed that the optimal treatment is complete urachectomy with negative surgical margins

Conclusion

Primary squamous cell carcinoma of the urachus is rare. This case was reported for its rare histologic type and to emphasise the role of immunohistochemistry in difficult cases.

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