

Papillary Urothelial Neoplasm of Low Malignant Potential with Inverted Growth Pattern- A Case Report

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Abstract

Case Report

Papillary Urothelial Neoplasm of Low Malignant Potential (PUNLMP) is a rare urothelial neoplasm seen in elderly patients. The term PUNLMP is used for noninvasive neoplasm of bladder with features of multilayering of lining epithelium and showing minimal or absent nuclear atypia. The growth pattern of these lesions is usually exophytic. We report a rare case of PUNLMP arising from bladder with inverted growth pattern in a 65 year old male patient.

Keywords: PUNLMP; Bladder; Inverted.

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INTRODUCTION

The term Papillary Urothelial Neoplasm of Low Malignant Potential (PUNLMP) has been introduced in the World Health Organization 2004 classification of tumors of the Urinary System and Male Genital Organs.

According to this classification PUNLMP is defined as a Papillary Urothelial lesion with an orderly arrangement of cells within papillae and having increased cellular proliferation exceeding the thickness of normal urothelium and having minimal to absent cytological atypia, preserved polarity of cells and rare mitosis [1]. PUNLMP with endophytic growth is a recently described term [2, 3].

We present a case of PUNLMP from bladder with inverted growth pattern in a 65 years old male patient.

CASE REPORT

A 65 years male patient admitted with pain in abdomen with history of hematuria since 4 months. MRI pelvis revealed a well-defined endophytic mass

arising from the posterior wall of bladder likely to represent benign polyp. Cystoscopic excision biopsy of mass was done and the specimen was sent for histopathological examination

Histopathological examination - Gross examination revealed a single grey white polypoidal lesion measuring 1.5 x 0.8 x 0.5cm. Cut section was grey white (fig 1, 2). Microscopy of the lesion revealed urothelial neoplasm with an endophytic growth pattern. The lesion revealed branching papillary fronds showing multilayering of lining urothelial cells with orderly arrangement within papillae and retaining of architecture. These cells showed mildly enlarged hyperchromatic nuclei of uniform size and shape and were distributed regularly within the papillae. Mitotic figures were infrequent (fig 3, 4).

Considering these features the histopathological diagnosis was given as Papillary Urothelial Neoplasm of Low Malignant Potential with inverted growth pattern.

The patient has been kept on follow up.

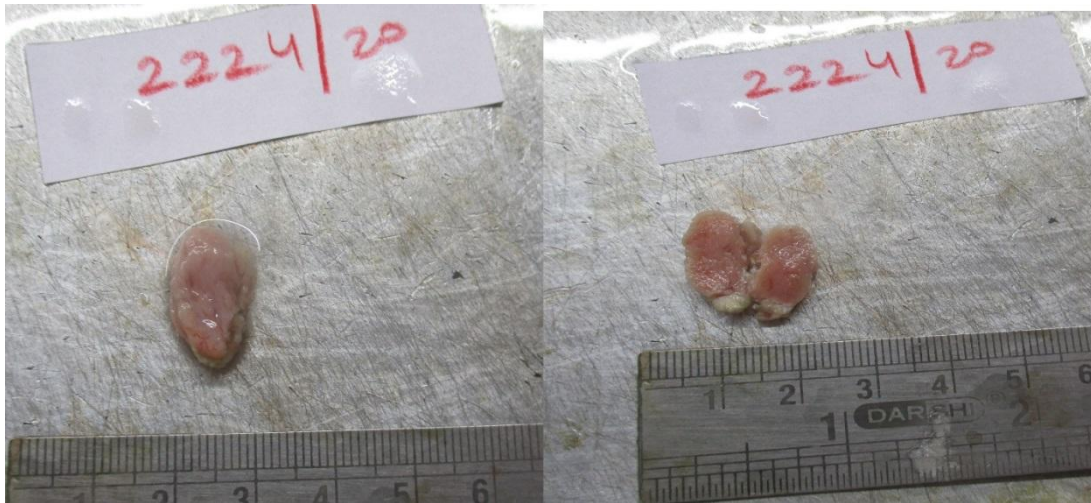


Fig-1&2: Gross Examination reveals a single greywhite polypoidal lesion; cut section is grey white homogenous

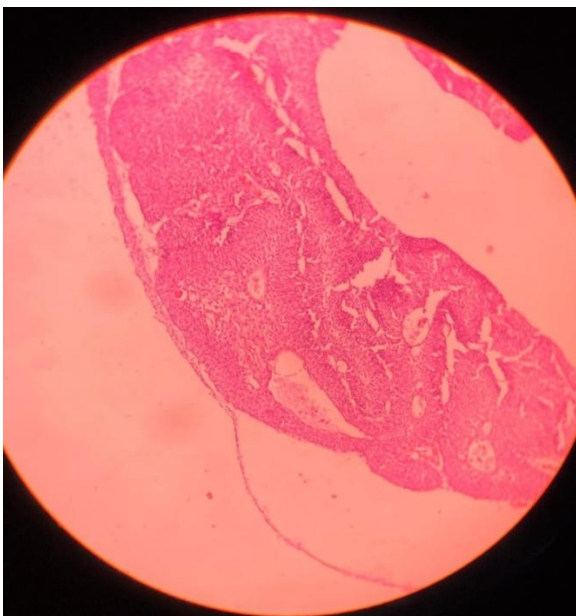


Fig-3: Photomicrograph showing a PUNLMP with inverted growth pattern (40x H&E)

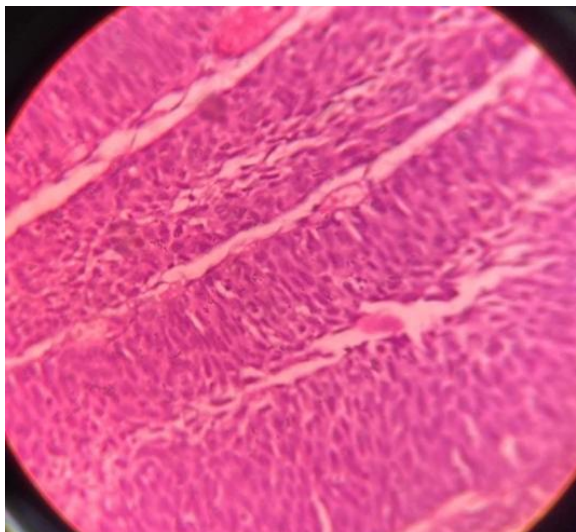


Fig-4: Photomicrograph showing non branching papillae with orderly arrangement of cells. (400x H&E)

DISCUSSION

PUNLMP are usually observed in male patients older than 50 years. Commonest clinical presentation of these patients is hematuria as in our case and also observed in other studies [4,5].

Most Papillary Urothelial Neoplasms present as exophytic growth in the form of finger like papillae but few show endophytic growth pattern. Inverted PUNLMP pattern is seen rarely [3]

Very few studies are available which describe the biological behavior of inverted PUNLMP. They have stated the uncertain clinical behavior of inverted PUNLMP [2,3].

Maxwell *et al.* have studied 189 PUNLMP out of which 12 revealed inverted growth pattern (6.3% cases). The close differential diagnosis of inverted PUNLMP is Inverted Papilloma. The growth pattern of inverted PUNLMP lacks central streaming and peripheral palisading which is a characteristic feature of inverted papilloma [6].

The recurrence and progression rate of PUNLMP ranges from 3.6 to 51.9% [4,7,8,9]. Out of 6.3% of inverted PUNLMP among 186 PUNLMP cases studied by Maxwell *et al.* all of these inverted PUNLMP revealed no recurrence of disease progression whereas overall rates of recurrence and progression to high grade carcinoma in case of PUNLMP with exophytic growth was 20.1 % and 1.6 % respectively with a mean follow up period of 61 months. Recurrence and progression was predominantly seen in male patients older than 50 years in their study [6]. However additional studies may be needed to verify present findings. These patients should be monitored regularly with ultrasonography for recurrence or progression.

CONCLUSION

Papillary Urothelial Neoplasm of Low Malignant Potential with inverted growth pattern is a rare observation. These tumors have better outcome in terms of recurrence. Hence reporting of inverted pattern in PUNLMP helps in long term patient management.

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