

Mucinous Cystadenoma of the Urinary Bladder

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Introduction

Mucinous cystadenoma arising from the urinary bladder is a very rare neoplasm and only two cases have been previously described. We describe one such case in this report. Since the lesion is not intramucosal, it can easily be missed on cystoscopic examination and it should be considered in the differential diagnosis of patients with vague urinary symptoms. Extensive sampling to exclude borderline or frank malignant change should be carried out as in mucinous cystadenoma to elsewhere in the body.

Case Report

The patient was a 55-year old man, who presented in October, 1991 to the urology clinic with one year history of frequency of micturition, hesitancy and poor stream, with terminal dribbling. He did not have dysuria or haematuria. He also complained about occasional urinary odour and painful ejaculation. In the past, he had undergone a cholecystectomy, a left inguinal hernia repair and median nerve decompression. He was on Atenolol and a diet for hypercholesterolemia. Flexible cystoscopy revealed a lesion deforming the posterior surface of the bladder. No other mucosal lesion was seen. Rigid cystoscopy under general anaesthesia revealed bulging of the mucosa, but no mucosal lesion. Laparotomy revealed an orange sized, mobile mass covered by the peritoneum and attached firmly to the wall of the bladder. The lesion was dissected and taken with a cuff of urinary bladder.

Pathological findings

Grossly, a portion of mucosa approximately 25 mm in diameter was received on the top of which was a cystic mass measuring 60x30x15 mm. It was partially cut at the top to reveal thick, jelly-like mucoid material through the orifice. The cyst was multilocular and firmly attached to the mucosa. Microscopically, the multiple locules of the cyst were lined by tall columnar epithelium composed of ciliated and non-ciliated cells with regular round, basally oriented nuclei (Figure).



Figure: Mucinous cystadenoma of the urinary bladder. The cyst is lined by tall, columnar mucin secreting epithelium with basal nuclei. H&E.

There was no nuclear pleomorphism or mitotic activity to suggest malignancy. In some areas, there was multi-layering of the epithelium but still within the acceptable range for a benign lesion. In many areas, the epithelium was missing with the formation of granulation tissue beneath which, the stroma was infiltrated by chronic inflammatory cells with the formation of lymphoid follicles and areas of dystrophic calcification. The cystic spaces were filled by thick mucus, mixed with sparse inflammatory cells. The basement membrane was not identified and although smooth muscle was present, this was clearly part of the urinary bladder wall rather than the cyst as on the opposite side, a urothelial lining was present. This smooth muscle was seen only in sections where bladder mucosa was present together with the cyst. The mucus secreting cells contained PAS, Alcian blue and mucicarnune positive material.

Discussion

Only two cases of mucinous cystadenoma of the urinary bladder have been described in the literature^{1,2}. Our case seems to resemble these reports in many respects, most importantly, as it originates from the fundus of the urinary bladder indenting the mucosa and projecting backwards beneath the pentoneum. Most other adenomas, such as vilous³ and nephrogenic⁴ arise from the urothelial lining commonly with a background of cystitis, cystica or glandularis, hence easily accessible to cystoscopic biopsy. In most cases, a history of instrumentation, trauma, surgical intervention or vesicolithiasis will be found. The commonest sites of origin of mucinous cystadenoma are ovary, pancreas and appendix⁵⁻⁷. Possible theories of histogenesis of these mucinous lesions include metaplastic change in the lining epithelium, such as interchange of one type of Muellenan epithelium to another, especially within the female genital tract and germ cell origin arising as a single cell type teratoma. The first case of mucinous cystadenoma of the urinary bladder was described by Telford¹ in a male patient of 57 years, who had haematuria with a mass in the hypogastrium, which on

laparotomy was found to be attached to the fundus of the bladder under the peritoneum. Histologically, the appearances were similar to our case and they suggested an origin in a heterotopic focus of mucus secreting epithelium of prostatic origin which has undergone repeated attacks of inflammation with resultant cystadenoma in the process of healing. The second case was published by Steele and Byrne² under the heading of paramesonephric (Muellerian) sinus of the urinary bladder. The patient, a woman aged 19 years presented with dysuria. A firm tender palpable mass to the right of the uterus was found which was 2 cms in diameter cystoscopically and protruded into the bladder. The lesion involved the urinary bladder and broad ligament. Histologic appearances were similar to our case. The suggested point of origin was the embryologic urogenital ductal system. Since basement membrane and smooth muscle were absent, the possibility of paramesonephric ductal origin was considered. Conditions like endometriosis, cystitis glandularis, nephrogenic adenoma, urachal remnant and extraovarian mucinous cystadenoma were excluded.

The case described in this paper bears a close resemblance to these two reports, more with the first case as this was in a male and confined to the dome of the urinary bladder. Histologic documentation of basement membrane, smooth muscle and presence or absence of cilia were not commented on and therefore, it is difficult to compare it further. However, these features are similar to those reported in case two. In view of more or less similar pathologic features, these three cases although having different gender origin, should be considered as part of the same morphologic spectrum. Since the number of cases reported is very small with no follow up, it is impossible to predict progression to malignancy, especially mucinous cystadenocarcinoma. Similarly, pseudomyxoma peritonei, a serious complication of mucinous neoplasms, remains a possibility if the lesion is left too long and it ruptures, although no reported case exists to prove it. From the pathologic point of view, once a mucinous lesion of the urinary bladder is seen, it is important to exclude the presence of malignant or borderline change as evidenced by stratification of more than three cell layers thick, the possibility of malignant change should be considered. Extensive sampling with multiple levels and blocks should be carried out. Similarly capsular invasion is another factor which would indicate carcinomatous transformation.

References

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