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Pyogenic Granuloma of the Urinary Bladder: A Rare Entity

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Abstract **Introduction:** Pyogenic granuloma is a reactive hyperplastic change commonly encountered in the skin and oral cavity. Very rarely they can occur in the urinary bladder. **Case Report:** 73 year old male presented with obstructive urinary symptoms and pain during micturition. He had an open prostatic surgery 25 years ago. His investigations were not contributory and there was no improvement with alpha blockers. Cystoscopy revealed a solitary, pedunculated 1 cm lesion in the posterior wall of the bladder along with inflammatory changes. Biopsy from the lesion revealed a diagnosis of pyogenic granuloma along with follicular cystitis. His symptoms resolved after the procedure and he was treated with a prolonged course of antibiotics. His imaging and follow up cystoscopy after six months were normal. He remains asymptomatic at 1 year of follow up. **Conclusion:** Pyogenic granuloma of the bladder is very rare and till now only eight cases have been reported worldwide. The important factor in management is to differentiate this condition from malignancy and treatment with transurethral resection and antibiotics may suffice.

Keywords: *bladder pyogenic granuloma, bladder tumor, pyogenic granuloma*

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1. Case Report

73 year old male presented with the complaints of urgency and pain during micturition for the past 2 months. He was apparently asymptomatic till 2 months ago. There was no hematuria, fever or abdominal pain. He had an open prostate surgery 25 years ago. He consulted elsewhere and had tried alpha blockers and anticholinergics. There was no improvement with medications. He was not a smoker. There was no history of tuberculosis.

Physical examination was unremarkable. Urine routine examination and blood results were normal. Urine culture was sterile. One previous ultrasound reported vesical calculus but it was not seen in a subsequent ultrasound. The kidneys were normal and there was no hydronephrosis. X Ray KUB did not reveal any radioopaque shadow. Cystoscopy was done for evaluation of his voiding symptoms.

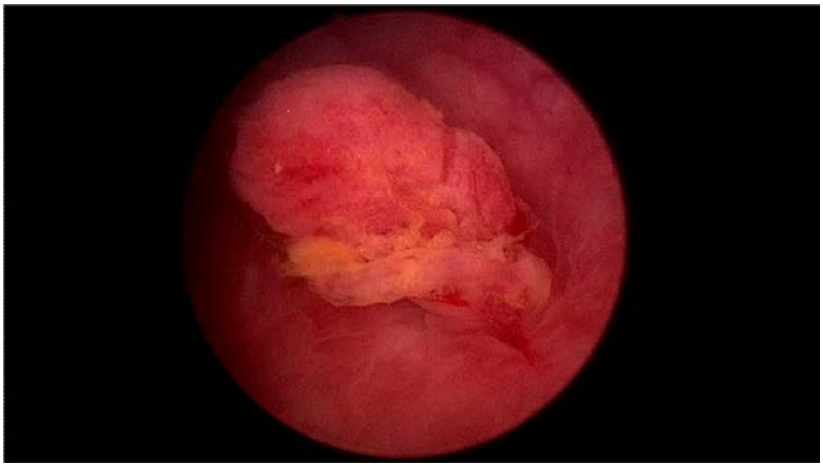

Figure 1. Bladder lesion seen on cystoscopy

On cystoscopy, anterior urethra was normal. Prostatic urethra was wide open and bladder neck was normal. There was a 1 x 1 cm solitary red pedunculated polypoidal lesion in the posterior wall of the bladder near the dome which appeared to be infiltrative (Figure 1). The surface appeared reddish in colour. There were inflammatory changes in many other places of the bladder. The ureteric orifices were normal. There was no vesical stone.

Transurethral resection was done and sent for biopsy. Separate biopsy was done from the inflammatory changes. Urine cytology was negative for malignant cells. Surprisingly, biopsy reported it to be a pyogenic granuloma with follicular cystitic changes. The histology showed a nodular lesion composed of small capillary sized blood vessels with surrounding edema. He was initiated on Levofloxacin and continued 3 weeks. He was completely relieved of his symptoms after the procedure.

Follow up cystoscopy after six months showed complete regression of the lesion (Figure 2) and he is asymptomatic at 1 year of follow up.

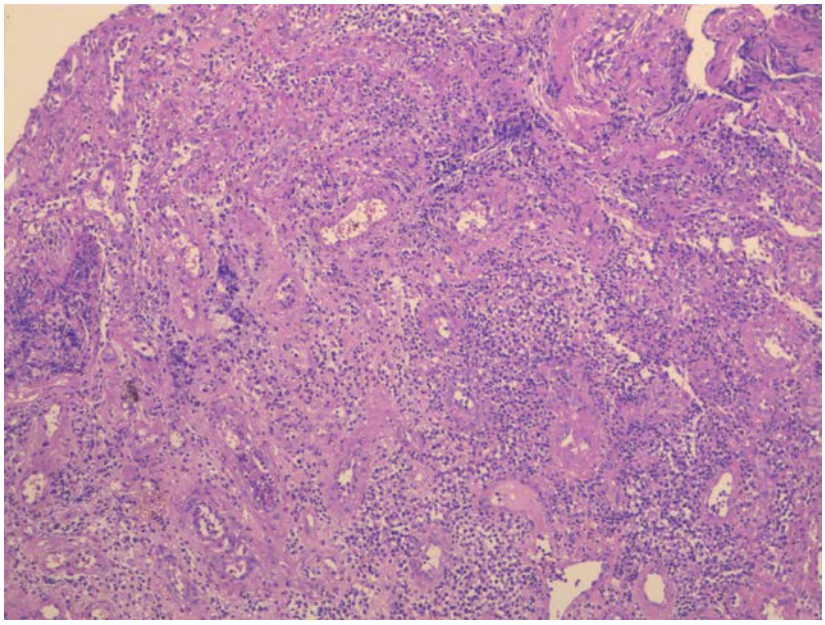

Figure 2. Histology slide showing pyogenic granuloma features

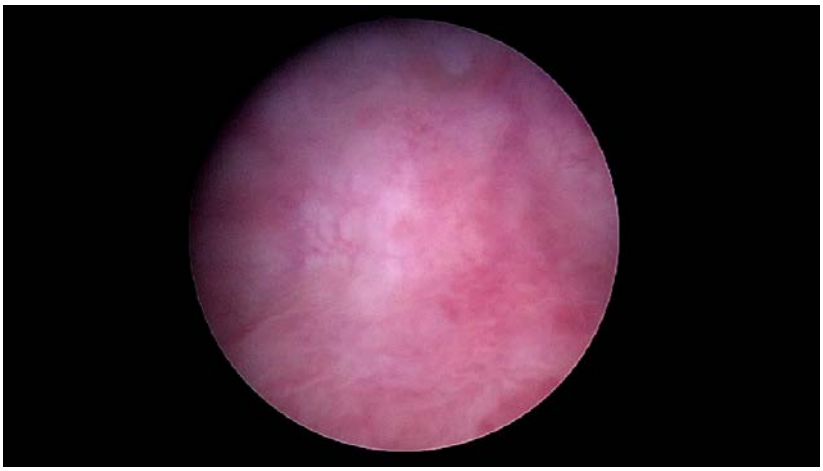

Figure 3. Follow up cystoscopy image showing resolution

2. Discussion

Pyogenic granuloma, though a common entity encountered in the oral cavity [1] and skin, is very rarely seen in the urinary bladder [2,3]. Pyogenic granulomas are characterized by prominent capillary growth associated with inflammation. They are usually solitary polyp like lesion and of sudden onset. They can bleed spontaneously due to the increased number of capillaries and eroded surface. Pyogenic granulomas have been rarely seen in the stomach [4], jejunum [5] and colon.

Urinary bladder pyogenic granuloma is very rare. Till now only eight cases have been reported in the World so far [2,3]. Pyogenic granuloma is considered as a reactive hyperplastic change rather than as a neoplastic change. Seven cases were seen in the United Kingdom [2] and one case recently in Japan [3]. It is commonly seen in the fifth or sixth decade with a slight female predilection. The usual presentation is with increased frequency and pain during micturition. They can bleed spontaneously but this patient never had hematuria. Urine culture may be positive but usually it is sterile. Organisms are usually not found in tissue preparations [2]. The mucosa is preserved in the early stages of the disease process. One rare case of progression to leukoplakia has also been reported [2].

The case reported from Japan [3] had a differential of both pyogenic granuloma as well as capillary hemangioma. The presentation was with hematuria and their possible hypothesis regarding the etiology was chemotherapy. This patient has not received any chemotherapy. But one common factor between this patient and the case reported from Japan is that both of them had prostatic surgeries. This patient had open prostate surgery 25 years ago

whereas the patient from Japan had transurethral resection of the prostate and cystolithotripsy 11 years ago. In both these cases, as the surgery was done before many years, we cannot say that the prior prostatic surgery was a causative factor.

Both the earlier reports have stressed on the fact that the lesion has to be resected transurethrally or a segmental cystectomy may be necessary. Some lesions may regress spontaneously but no details are available in the literature. Appearance of new lesions has been noted in two cases [2].

This case is reported because of its rarity and to highlight the fact that treatment with transurethral resection and antibiotics may suffice.

3. Conclusion

Pyogenic granuloma though a common entity in skin and mucous membranes due to trauma, is very rarely seen in the urinary bladder. Though nothing can be proposed from the etiological point of view, this case is highlighted because of its rarity and to stress on the fact that treatment with transurethral resection and antibiotics may suffice.

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