INTRACTABLE HAEMATURIA SECONDARY TO PEDUNCULATED MEDIAN LOBE OF THE PROSTATE: A DIAGNOSTIC DILEMMA

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ABSTRACT

Benign prostatic hyperplasia is a common disease in the ageing male. Obstructive solitary and pedunculated intra-vesical enlargement arising from the median lobe of the prostate is rare. The enlarged median lobe, juts into the bladder base, and occasionally occludes the internal urethral opening during voiding (ball valve effect). The clinical diagnosis can be difficult, as digital rectal examination and ultrasonography can be inconclusive. Intractable haematuria associated with benign prostatic obstruction (BPO) is a urological emergency necessitating emergency surgical intervention.

We report a 54 year old man, who presented with a 3 year history of worsening severe lower urinary tract symptoms (LUTS) that culminated in intractable haematuria of 7 days duration and acute urinary retention. Digital rectal examination revealed a flat prostatic fossa with no nodules. PSA was 11.7ng/ml. Ultrasonography revealed a huge prostate with a prominent median lobe (grade-3 IPP) and a post void residual of 176mls. He underwent emergency open trans-vesical prostatectomy with good surgical outcome.

Keywords: *Intractable haematuria, pedunculated, solitary, median lobe, emergency prostatectomy.*

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INTRODUCTION

Benign prostatic hyperplasia (BPH) is a common disease in the ageing male[1]. There are several patterns of lobar involvement in BPH. These include: trilobar, lateral lobes, median bar, median lobe, subcervical, and subtrigonal hypertrophy[2]. Intravesical prostatic protrusion (IPP) is characterised by an overgrowth of the prostatic median lobe into the bladder, with consequent features of worsening lower urinary tract symptoms (LUTS), and bladder outlet obstruction[2]. The median lobe arises from the peri-urethral zone between the urethra and ejaculatory ducts, with the upper surface bound by the trigone[3]. The prostate adenoma enlarges into the bladder, along the plane of least resistance[2]. IPP can present as a combination of median lobe, median bar or trilobar configuration or in isolation as a single lobar manifestation. Asymmetric enlargement or huge intravesical protrusion have been

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identified to mimick bladder wall tumor, posing a diagnostic dilemma[4]. JS Park et al[5] identified that prostatic apex shape is an independent risk factor for voiding severity and low maximum flow rate. The prostatic apex shape defines an overlap of the prostatic apex to the anterior or posterior axis of the urethra. They identified significant correlations between the maximum flow rate and independent factors like age, IPP, and prostatic apex shape. Solitary huge median lobe causing benign prostatic obstruction is rare, and presents with worse clinical symptoms. The flap of median lobe /'uvula vesicae' causes a ball valve effect that presents as severe obstruction during high pressure voiding. This is distinct from lateral lobe obstruction that occasionally gives way to urine flow, as detrusor contraction increases. Routine clinical examination may not be sufficient to diagnose IPP, hence the need for a high index of suspicion in patients with severe lower urinary tract symptoms and normal findings on digital rectal examination. Trans-rectal ultrasound detects intra-vesical prostatic protrusion early. Transa-bdominal ultrasound in the saggital plane may be diagnostic too. However trans-rectal ultrasound is minimally affected by urine in the bladder, unlike trans-abdominal ultrasound. Medical treatment alone is not satisfactory in severe intra-vesical prostatic protrusion, as the ball valve compresses the prostatic urethra. Therefore, early detection offers opportunity for consideration of appropriate surgical intervention.

Case report

A 54 year old trader was seen in our clinic with a three year history of worsening LUTS. Symptoms were severe, and characterised by worsening frequency, urgency, nocturia, poor stream, sense of incomplete emptying and terminal dribbling. He strains with no improvement in urine flow. Haematuria was total and self limiting in the initial days. However, became intractable the preceding week to presentation in our urology clinic. He had earlier had a transabdominal ultrasonography and cystoscopy with biopsy at another centre for a suspected huge bladder wall mass. Histology revealed benign nodular hyperplasia. He was subsequently commenced on medical treatment with alpha-1 adrenergic blockers (tamsulosin) and 5-alpha blockers (finasteride) with persistence of symptoms, hence the self referral to another urology center. On presentation, he was in painful distress. He was obese and had a tender distended bladder. A size 24 three- way courvelier tip catheter was passed, and bladder washes out done. Blood clots were evacuated. Irrigation was commenced with good results. PSA done earlier was 11.5ng/ml. Renal function test was normal. Repeat DRE revealed a firm and flat prostatic fossa with no nodules. Rectal mucosa was free. Prostate volume on TRUS was 138g

with grade-3 (>10mm) intra-vesical prostatic protrusion IPP. The median lobe was seen jutting into the base of the urinary bladder. Pre-void urine volume was 202mls, while post-void urine volume was 176mls.

He subsequently underwent open trans-vesical prostatectomy following an informed consent. Intra-operative findings revealed dark blood clots, a huge pedunculated/stalked median lobe. There was a bleeding vessel at the base of the median lobe (figures 1 and 2). Bladder wall was normal, and ureteric orifices were in normal positions. There was no evidence of enlarged lateral lobes, and none was identified during enucleation. The median lobe was subsequently enucleated and haemostasis achieved. Enucleated median lobe of the prostate weighed 149.1g on a caliberated electronic weighing scale (figure 3) and measured 11cm x 8 cm in widest dimensions (figure 1&2). Post operative period was uneventful, and he was discharged on the 6th post operative day. Histology of enucleated prostate tissue revealed benign nodular hyperplasia. Photomicrographs of the specimen as shown in figures 4 and 5 reveal that the glands were cystically dilated and contain amorphous secretions. The glands were also lined by 2 layers of cell (an inner cuboidal and an outer myoepithelial cell).

He has been seen thrice in clinic. He is voiding satisfactorily, with a good quality of life index.

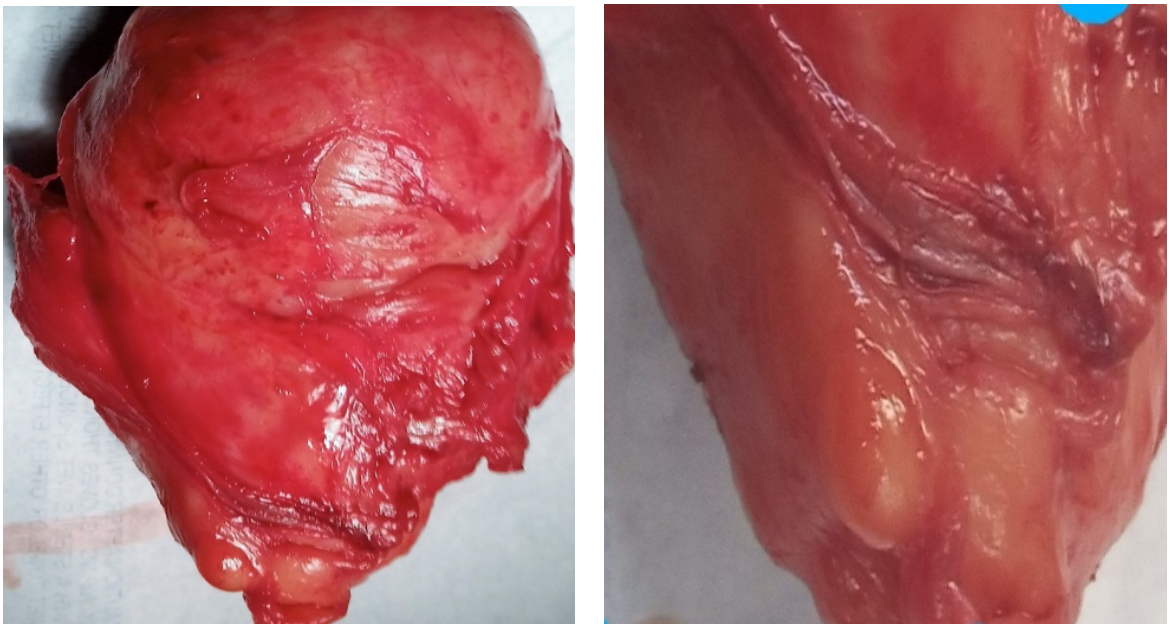

Figure 1: Pedunculated median lobe with identified bleeding vessel

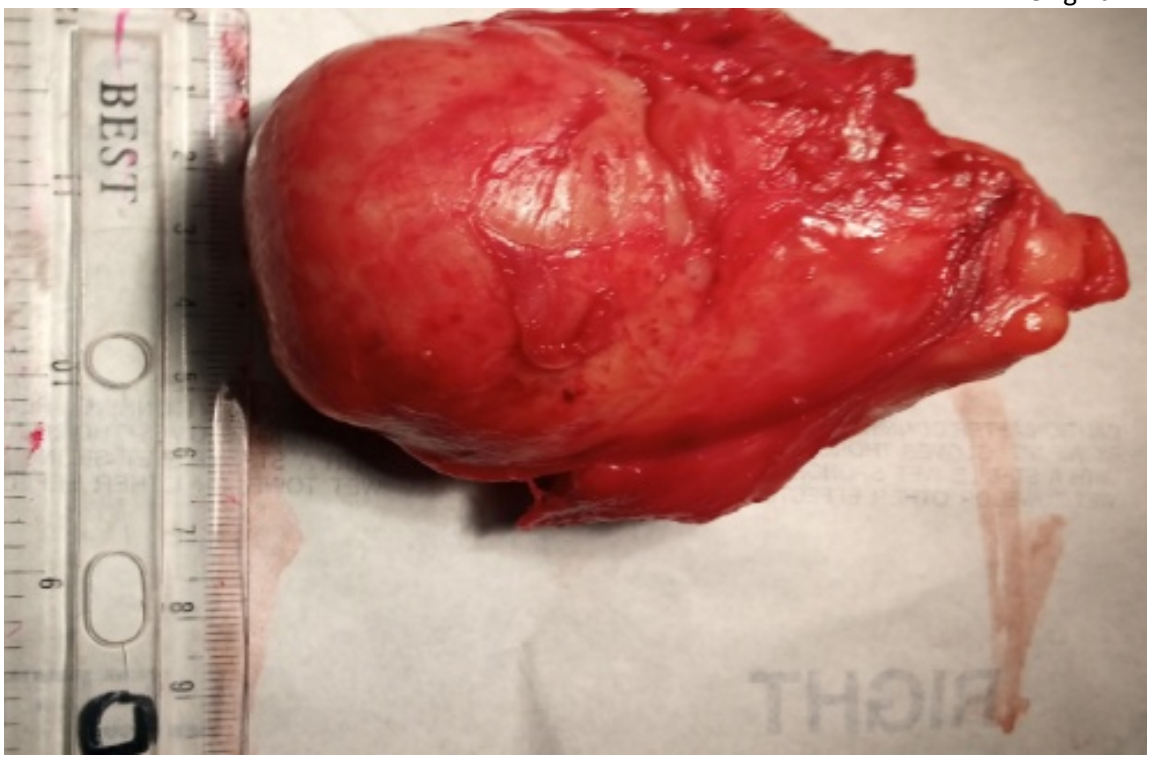

Figure 2: Transverse diameter of the median lobe of the prostate

Figure 3: A 149.1kg enucleated pedunculated median lobe of the prostate

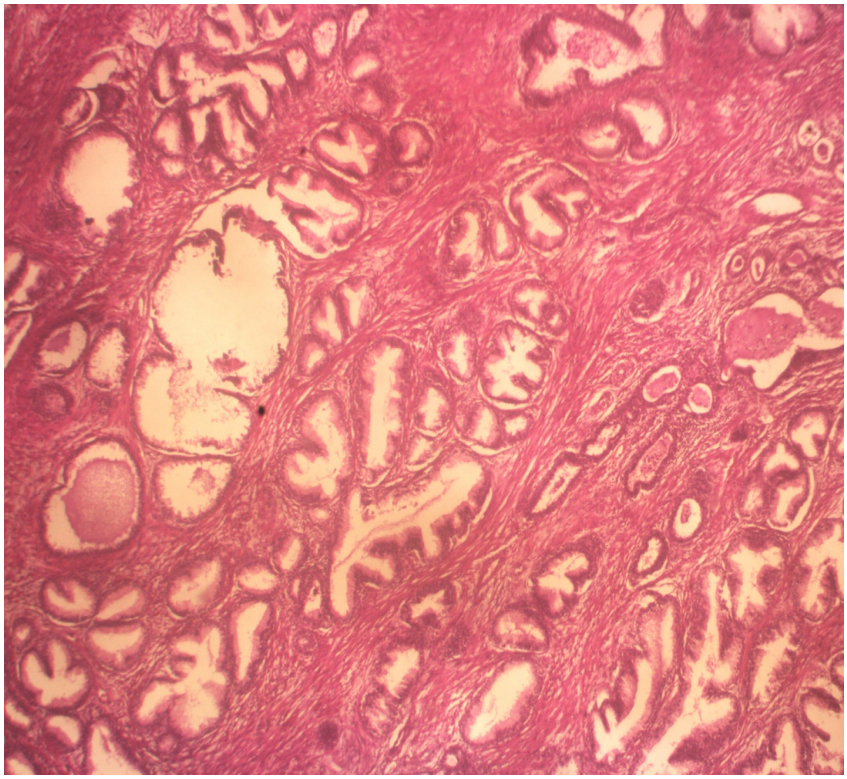

Figure 4: X50, Section shows a benign lesion composed of proliferating fibromuscular stroma and double layered glands, some of the glands are cystically dilated and contain amorphous secretions. Overall features are those of benign nodular hyperplasia.

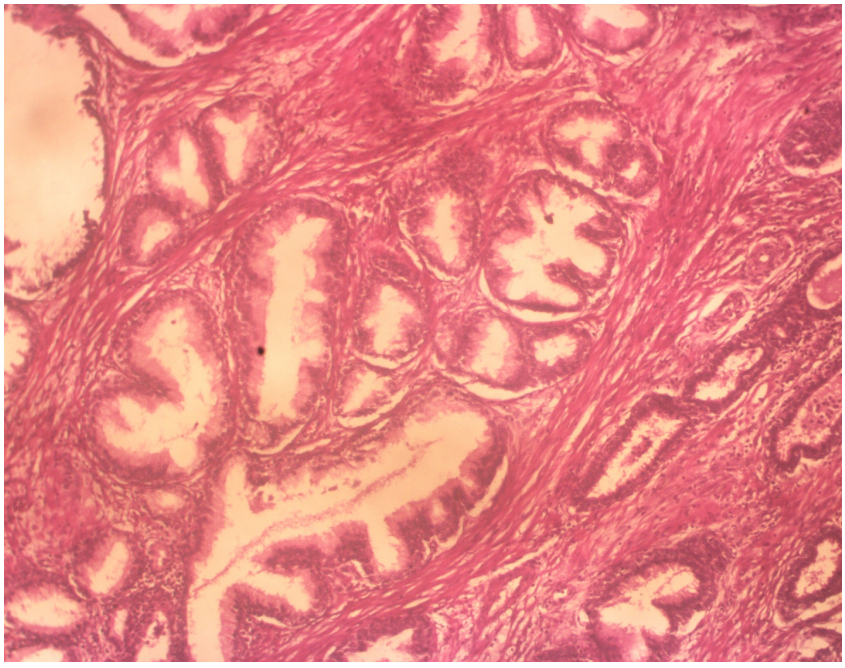

Figure 5: Shows the gland, lined by 2 layers of cell. An inner cuboidal and an outer myoepithelial cell.

DISCUSSION

Pedunculated and solitary median lobe of the prostate can mimic bladder wall tumor[4]. It causes severe lower urinary tract symptoms, with episodes of acute urinary and clot retention[5]. Haematuria can be debilitating and life threatening. Intractable haematuria, secondary to benign prostatic obstruction (BPO) is an indication for emergency surgical intervention[6]. Prolonged medical treatment with alpha blockers and 5-alpha reductase inhibitors has not been documented to be satisfactory, in the presence of a prominent median lobe[7]. Hence, the need for early surgical intervention in a fit patient . This becomes important, as we have observed that most patients take these drugs for years, and give consent for surgery when symptoms persist at very advanced age, with competing co morbidities. Our patient was a 54 year old trader, who has been subjected to various invasive and non invasive investigations in the past 3 years. He was subsequently commenced on medical treatment, with persisting and worsening symptoms complex. The large prostate volume protruding into the bladder has low stroma proportion, making 5-alpha reductase therapy, less effective[3,8]. Most patients coming to urology clinics are already on alpha blockers and 5 alpha reductase inhibitors. Some are prescribed, while rest are on self medication, on the assumption that all forms of BOO respond to these set of drugs. A large percentage of these patients have grade 3 IPP and usually present with severe IPSS and poor quality of life index. IPP predicts failure to trial void, and in some cases, the pedunculated 'free floating' median lobe can undergo torsion[3]. A trial without catheter is more likely to fail in patients with intravesical prostatic protrusion larger than 10mm[9]. Clinical features may be misleading as DRE may not demonstrate an enlarged prostate. In the course of clinical and laboratory evaluation of the index case, a diagnosis of huge bladder wall tumor was made, necessitating cystoscopy and biopsy. Histology revealed benign nodular hyperplasia. Patients with severe IPP present with worsening frequency and urgency, with an elevated PSA and large bladder volume[7,8]. This was identified in the index case. In IPP, the bladder neck may not close tightly, allowing urine to leak into the prostatic urethra and causing premature micturition reflex and urinary incontinence[8]. Vascular enlargement of the prostate leads to haematuria[10]. Bleeding usually results from friable hypervascularity of the prostate. The vessels are easily disrupted by any physical activity[11]. Bleeding can be intractable and recalcitrant, as document in our patient. BPH with massive haematuria invariably has an enlarged median lobe, and is best managed by open prostatectomy without risk of re-bleeding[12]. It is therefore quite important to do a comprehensive clinical evaluation

and a trans-rectal ultrasound in patients unresponsive to medical treatment for BPH, while having a high index of suspicion that prominent and huge median lobes can pose a diagnostic dilemma as it bleeds easily. Surgical intervention is best offered early.

Conclusion:

Huge Isolated and pedunculated median lobe can present with intractable haematuria and clot retention. Huge median lobes can mimic bladder wall tumor. Severe IPP predicts failure to trial void despite medical therapy. Early surgical intervention guarantees good surgical outcome

Ethical consideration

Written informed consent was obtained from the patient for publication of this case report.

Conflicting Interests

The authors declare that they have no conflicting interests.

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