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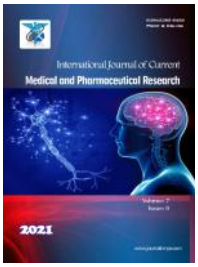

RENAL DYSPLASIA WITH GIANT RENA; L CALCULUS: MANAGEMENT NIGHTMARE

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ABSTRACT

Large Renal stones more than 5 cm are called as Giant Renal Calculus. They are rare and few cases are reported in literature which are more than 100 gm and more than 10 cm in maximum dimension. We are reporting a case of 72years female presented with left flank pain and a history of open Anderson Hynes pyeloplasty done 25 years back. On evaluation she was found to have a large Renal calculus 12 x 8.5 cmin a solitary functioning Kidney which was removed by performing Open Pyelolithotomy to deliver solitary large Renal calculus measuring 11.5 x 8.5 cm and weighing 457 gm.

INTRODUCTION

A 72year Female presented with complain of left flank pain for 3 months which was dull aching, intermittent and non-radiating and relieved on medications. Patient had a history of left Open Anderson Hynes pyeloplasty done 25 years back. Otherwise no other significant urological history was present. No history of renal insufficiency was present.

On Physical examination, a hard lump was palpable in left abdominal region from subcostal to iliac fossa.

Blood Investigations shows HB 10.5 gm%, Sr creatinine 2.2 mg%, BUN 20.5 units, Serum calcium 8.2, alkaline phosphatase 133.0

Urineanalysis shows 3-4 pus cells/hpf , 2-3 RBC/hpf. Urine culture was sterile.

USG KUB shows a large renal calculus in left kidney with hydronephrosis small shrunken Right sided kidney.

Xray KUB and CT KUB shows left renal pelvic calculus of size 11.5 x 9.6 cms which is lamellated with HU 744 with moderate Hydronephrosis. Right kidney is atrophic shrunken measuring 6.1x1.4.

Patient underwent left open Pyelolithotomy through left flank incision. Curvillinear incision on renal pelvis was given and single large renal calculus was removed in one piece. Calculus measured 11.5x 8.5 cm in dimension and weighted 457 gms. Postoperative period was uneventful , abdominal drain was removed on Post op Day 3 and DJ stent was removed after 6 weeks. Follow up Xray KUB and USG KUB shows no residual calculus. After 6 month of follow up patient is asymptomatic and not on hemodialysis with nadir creatinine of 2.2 mg%.

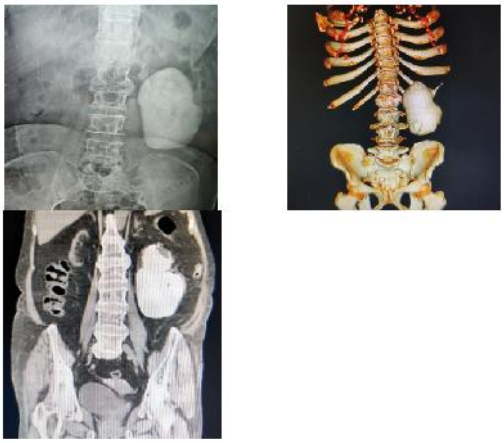

Fig. 1 , 2, and 3 shows Xray KUB, Reconstructed CT KUB image and sagittal view respectively

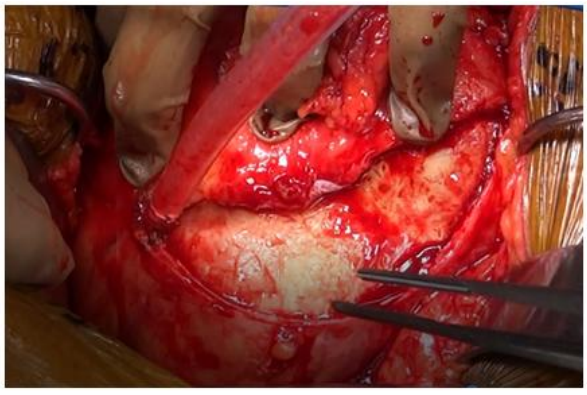

Fig 4 Intra operative image showing large calculus

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Fig 5 showing stone dimensions

Fig 6 showing stone weighing 457gm

DISCUSSION

Large Renal stones more than 5 cm are called as Giant Renal Calculus. They are rare and very few renal calculi are reported in literature which are more than 100 gm and more than 10 cm in maximum dimension.

Oldest note of a giant renal calculus termed as 'Mammoth' Calculus was reported by Duncan *et al.* in 1946 which was weighing 315 gm.(1)

Bayazıt *et al*. reported the first giant stone in a solitary functioning kidney and this stone weighed 770 gm. This stone was the largest and heaviest stone in a solitary functioning kidney treated by nephrolithotomy. (2)

Kapoor R *et al* reported a renal calculus of 750 gm and sized 15 x 8 cm and was managed with Nephrolithotomy.(3)

Yousef *et al* reported a renal calculus of size 10.2 x 6 cm weighing 225 gm. (4)

In the present era of modern medicine and endoscopic advancement, such large sized calculi are rarely found due to early and effective diagnosis and treatment. Such a large stone in solitary kidney is even more rare. However, they can occur if the diagnosis is delayed or patient remained asymptomatic for longer period of time. Our case also demonstrates that Renal calculus in solitary functioning kidney can grow to such a large size without significant discomfort and without causing significant renal dysfunction.

Open Pyelolithotomy is rarely performed nowadays for treatment of Renal Calculi in current era of minimal invasive interventions. Though a morbid procedure as compared to endoscopic and minimal invasive procedures, the only treatment modality for such giant renal calculus seems to be open surgery. The advantage of shorter operative time and less bleeding are undisputed advantages of open surgery in elderly patients with comorbidities. Laparoscopic pyelolithotomy is also a well-established procedure for management of large renal calculi. However, large stone in elderly patient with comorbidities will take one and half to two hours for laparoscopic pyelolithotomy. Our surgery was completed within one hour. Outcome of procedure was good and patient recovered well and complete stone clearance was achieved.

CONCLUSION

Open surgery cannot be forgotten and needs to be learned by every resident in training. It is safe, fast and is the procedure of choice for giant renal calculi in elderly patients with comorbidities.

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