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RESEARCH ARTICLE

MULTI MODAL MANAGEMENT OF STAGHORN CALCULUS WITHOUT PCNL IN POOR PERFORMANCE STATUS PATIENT

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ABSTRACT

The usual procedure of choice in a staghorn calculus will be Percutaneous nephrolithotomy. In selected patients Anatropic nephrolithotomy or nephrectomy. In surgically high-risk patients we usually try multiple sessions of Extracorporeal shock wave lithotripsy combined with double J stent or percutaneous nephrostomy. We are reporting this unusual neurological patient who had a huge load of stones in both kidneys and ureters who responded well with complete stone clearance after just drainage of the system, with bilateral ureteric stents and continuous bladder drainage and antibiotics.

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INTRODUCTION

Staghorn calculi are interchangeably considered as infective stones and contain struvite and calcium carbonate apatite crystals with variable matrix component. The matrix is made up glycoseaminoglycans secreted and found in the mucous. Infective stones are due to urease splitting bacteria e.g. Proteus, Klebsiella, Pseudomonas and Staphyllococcus. Hardness of Stone will be determined by proportion of matrix component. When matrix component is more than 65% the stone is soft and fluffy. The Patient with even silent and non-obstructivestaghorn calculus must be treated because kidney loss due to interstitial nephritis. In poor performance patients we have tried ESWL multiple sessions. Beck and Riehle have treated cohort of patients with ESWL monotherapy. Other less invasive treatment will be stone dissolution therapy with Suby G and hemiacidrin solution instilled into collecting system via percutaneous nephrectomy tube or ureteric catheter. But these are not effective as monotherapy. People have used it in conjunction with ESWL. Acidification of urine is another potential therapy. Agents are VITAMIN C, ammonium chloride and L – methionine. Vitamin C can paradoxically cause stone formation due to increased oxalate formation. For acidification to be effective urine Ph must be less than 6.5. Most promising is L methionine.

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A single dose will reduce the urine Ph to 6.2. Urease inhibitors are also effective. Better than antibiotics as antibiotic resistance can be avoided. Acetohydroxamic acid is the available drug. Currently it's not widely used due to high incidence (20%) of serious complications involving neurological, haematological and dermatological. Till we have safer drugs this option is difficult to adopt.

Case presentation: The patient was first seen in Neurosurgical ICU. Urology call was for urosepsis by the intensivist. Patient was 20 years old male bed ridden with tracheostomy and T piece and oxygen supplementation. Ryles tube was in for feeding. A condom catheter was placed and connected to urobag to prevent bed wetting. Urine in the bag was turbid with thick debris. He was in the hospital for 3 months. He is a victim of trauma with head injury and intra cranial haemorrhage and cerebral injury. A decompression cranioplasty had been done. Though he was on regular physiotherapy there was spasticity of four limbs. Lower limbs were internally rotated and partly flexed. The upper limbs were across the chest. He is not able to communicate. Responds to only painful stimuli by eye and little limb movements. At admission the CT abdomen was taken, showed normal kidneys ureters and bladder. The serum creatinine was 0.9 mg/dl. The patient started having high grade fever for a week. There was haemodynamic instability with fall in blood pressure, managed with normal saline infusion and vasopressors. The total leucocyte counts were 20000 with predominance of polymorphs.

The serum creatinine has increased to 2.5 mg/dl. Blood and urine culture showed significant growth with Klebsiella species. The patient was on intravenous meropenem. CT plain abdomen was taken which showed over distended urinary bladder with bladder calculus. There was bilateral moderate hydroureteronephrosis. Right mid ureter had a cast like calculus for 4 cm length and there was a 2 cm calculus on the left upper ureter. Right PCS had a large 2-3 cm calculus with continuity to lower calyceal calculus of size 2-3 cm. There were calculi in middle and upper calyx of size 1-1.5 cm. The left kidney had a 2-3 cm calculus at the pelviureteric junction. A large calculus was in the left lower calyx of size 1-2 cm. A urethral foley catheter 16F was placed for bladder decompression. After relatively stable condition cystoscopy and bilateral double J stenting done under monitored local an aesthesia with 2% lignocaine gel was planned. The patient was on tracheostomy with Limb and posture deformities due to muscular imbalance.

Lithotomy positioning was not feasible hence procedure carried out in supine position. Anaesthesia assessment was under high risk which the patient's attenders were not willing to take. Hence flexi-cystoscopy done. The bladder was grade 2 trabeculated with fluffy calculus material. A 20 F silicone catheterwas inserted and the fluffy material sucked out with a 50ml syringe. The fluffy material sent for biochemical analysis and microbiological evaluation for fungus. Cystoscopy done again, locating ureteric orifices was difficult. Bilateral double J stenting done under fluoroscopic guidance. Following stenting the bladder was drained with urethral catheter. The patient gradually improved after 3 days. Regular change of catheter 3 weekly with serum creatinine check and urine culture check. Continuous treatment of Infection with appropriate antibiotics done. He had pseudomonas infection twice and E.coli infection. Patient was on antibiotic prophylaxis with nitrofurantoin 100 mg once at bedtime. He was discharged after a month. After 3 months repeat CT KUB was taken. There was complete clearance of stones in the ureters, and both kidneys. There was only mild hydroureteronephrosis with both stents in position. Multiple calculi were seen in urinary bladder. The biochemical analysis revealed mixed calculus. Calcium 17.4%, oxylate 11.4 %, ammonia 1.2 %, uric acid 23.3%, phosphate 29.1 %,magnesium 17.4 %. No fungal elements identified. Bladder wash and bladder calculi removed, flexi cystoscopy and both stents removed as outpatient.

DISCUSSION

The reason for stone formation may be multiple in this patient. The key factors will be neurogenic bladder with stasis (large residual urine and bilateral ureteric calculus), infection and resorptive hypercalciuria due to bedriddeness. The predominant role will be stasis and infection. Stasis in a system and infection can form a staghorn calculus in 4 to 6 weeks. Hence with the treatment he responded well with complete stone clearance. We didn't try ESWL as the stones were soft and fluffy. As the stones were fluffy this enabled clearance of the stones with drainage alone.

Conclusion

In poor performance status patients like this scenario we can consider other adjunctive therapies also to ensure complete stone clearance if needed. According to the AUA Nephrolithiasis Guidelines Panel, complete stone removal shouldremain the therapeutic goal to ''eradicate any causative organisms, relieve obstruction, prevent further stone growth and any associated infection, and preserve kidney function''

REFERENCES

Beck EM., Riehle RA. Jr. 1991. The fate of residual fragments after extracorporeal shock wave lithotripsy monotherapy of infection stones. *J Urol.,* 145:6–9 [discussion: 9–10].

Tiselius HG., Hellgren E., Andersson A. et al., 1999. Minimally invasive treatment of infection staghorn stones with shock wave lithotripsy and chemolysis. *Scand J Urol Nephrol.,* 33:286–90.

Heimbach D., Jacobs D., Muller SC. et al., 2002. Chemolitholysis and lithotripsy of infectious urinary stones an in vitro study. *Urol Int*., 69:212–8.

Bichler KH., Eipper E., Naber K. et al. 2002. Urinary infection stones. Int J Antimicrob Agents, 19:488–98.

Preminger GM., Assimos DG., Lingeman JE. et al., 2005. Chapter 1: AUA guideline on management of staghorn calculi: diagnosis and treatment recommendations. *J Urol.,* 173:1991–2000.

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