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SCREENING FOR HYPERURICAEMIA IN STONE FORMERS: IS IT WORTH IT?

S Thompson; C Bastianpillai; A Noah; E Noor; K Subramonian
University Hospitals Birmingham, UK

Introduction

Recent NICE guidance does not advocate serum uric acid measurement within a basic metabolic screen in contrast to other existing guidelines. Identifying and treating modifiable risk factors is key to reducing the need for intervention in urolithiasis patients. We studied the relationship between serum uric acid levels and stone type, the predictors for hyperuricaemia, and whether the routine measurement of uric acid impacts the use of medical prophylaxis in adult urolithiasis patients.

Methodology

We retrospectively identified urolithiasis patients presenting to our centre who have undergone stone analysis. Patients with uric acid, calcium oxalate, and calcium phosphate stones were compared. We assessed uric acid measurement, the presence of hyperuricaemia, the subsequent effect on management, and risk factors for hyperuricaemia (sex, BMI, diabetes). Statistical analysis was undertaken using the Fisher's exact test for categorical data (GraphPad software).

Results

Of 327 patients identified, serum uric acid was measured in 56%. Hyperuricaemia was identified in a significant proportion across a variety of stone types (Table1). In patients with hyperuricaemia, 19% (n=5) of oxalate stone-formers received medical treatment, compared to 80% (n=12) of uric acid stone-formers. There was a significant association between hyperuricaemia and both BMI>24.9 (p=0.014) and male sex (p=0.048).

Conclusions

Contrary to published NICE guidance, hyperuricaemia is a common finding in stone formers and is worthwhile identifying. Many patients can be managed with lifestyle modification, but some require pharmacological intervention. We recommend that patient factors such as high BMI and male sex can be used as predictors for a targeted metabolic screen.

TABLE 1 Stone Composition in Patients with Hyperuricaenemia

Stone Composition	Total Patients	Patients with Hyperuricaemia
Calcium oxalate	238	21%
Calcium phosphate	50	23
Uric acid	35	50
Mixed calcium oxalate/uric acid	4	75

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WHEN IS IT SAFE TO REMOVE THE CATHETER AFTER BIPOLAR-TURP?

Comparative study of the postoperative outcomes following day 1 and day 2 catheter removal

Angus Bruce, Ali Ehsanullah and Ananda Dhanasekaran

Sandwell and West Birmingham NHS Trust, UK

Introduction & Objectives

Transurethral resection of the prostate (TURP) is a common surgical management option for the treatment of lower urinary tract symptoms secondary to prostatic enlargement, with an estimated 23,000 TURP operations per year in England and Wales. Post-operative complications include the risk of bleeding, infection and the inability to void following the removal of urethral catheter post-operatively. We present our data of post-operative bipolar-TURP patients undergoing trial without catheter on day 1 and day 2 post-operatively, in a multicentre district general hospital in the United Kingdom. The comparison was made of the complication rates and future readmissions between the two cohorts, in order to try and identify any relationship between the timing of trial without catheter (TWOC) and the occurrence of postoperative complications.

Methods

Data were collected over a 12-month period, from January-December 2018. Electronic patient records, operative notes and electronic diagnostic reporting software were used to collate and analyze data.

Results

A total of 144 patients underwent transurethral resection of the prostate within the specified time period. In patients having TWOC day 1 postoperatively, the mean age of the patient was 69.6 (range 43–86); and mean prostatic tissue resection weight 13.7 g (range 1–86). The mean age of patients undergoing TWOC day-2 postoperatively was 70.25 (range 44–85); with mean resection weight 16.3 g (range 1–44). Successful trial without catheter was achieved in an identical proportion (83%) of patients who had their catheter removed day 1 post-op (n=65), compared with day 2 post-op (n=41). A total of 3 patients (2%) were readmitted with acute urinary retention within 30 days of discharge, with a further 6 (4%) requiring readmission for hematuria. There was no relationship between the timing of the TWOC and the occurrence of complications. Significant intraoperative bleeding was associated with postoperative complications, with a higher proportion of these patients requiring bladder washout and undergoing a failed TWOC.

Conclusions

Our data have shown no change or difference in complications profile on the comparison between day 1 and day 2 post-operative trials without the catheter. From this, we conclude that the removal of the catheter within 24 hours of bipolar-TURP is safe, and can be considered in suitable cases. The earlier initiation of catheter removal may help reduce rates of hospital-acquired infections, allow patients to return home promptly after their operation and save a significant amount of money. By definition, discharging patients within 24 hours of their operation raises the possibility of performing such operations as a day-case procedure in future. It is imperative that the operating technique should take into account robust hemostasis – this will prevent unnecessary patient stay and facilitate earlier TWOC.

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PROSTATIC URETHRAL LIFT - ADVANCED TECHNIQUES AND ITS INFLUENCE IN PATIENT PATHWAY

Aman Khela and Ananda Dhanasekaran

Sandwell and West Birmingham NHS Trust, UK

Prostatic Urethral Lift (PUL), is one of the latest minimally invasive surgical procedures for Benign Prostatic Enlargement (BPE). It is a day case procedure endorsed by NICE in 2018 for use in men with less than 100 cc prostates without a middle lobe. We will discuss how Advanced MedLift and 4D techniques for those with high bladder necks / median lobe can improve the BPE patient pathway.

Materials and Methods

We compare the current PUL pathway with a shorter patient pathway, which we use at our trust, and the evidence base for its implementation.

Results

In our centre we are safely and efficiently carrying out advanced Medlift and 4D techniques under local anaesthesia without sedation. To date we have treated 14 patients who would previously been considered unsuitable for PUL in this manner with good outcomes. Total PUL patients treated were 35. Our findings are in keeping with increasing evidence for the use of Advanced Techniques in an ambulatory setting.

Conclusions

The development of one stop LUTS clinics and the growing confidence of surgeons to operate on anatomically variable prostates means the need for additional pre-operative investigations like flexible cystoscopy and TRUS for volume measurement are negated. Additionally, more centres are able to assess patients in dedicated one stop LUTs clinics. The above in conjunction with the potential to perform PUL under local anaesthesia, in an ambulatory setting makes the BPE pathway much simpler and shorter. This results in improvement in the existing BPE pathway and patient experience.

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ACUTE RENAL COLIC: HOW DOES MANAGEMENT AFFECT READMISSION RATES

Anthony O. Noah, Mussammett Ahmed, Salim S. Malik, Odinaka Nwodo, Qamar Sharif, Augusta Oji, Joshua Sheppard, Christopher Bastianpillai, Odunayo Kalejaiye, Kesavapilla Subramonian

University Hospitals Birmingham, UK

Following recent NICE guidance, acute management with ureteroscopy or lithotripsy has been proposed for patients with renal colic. Many hospitals still provide stent insertion; however, it is fraught with side effects. A proportion of patients are managed conservatively.

Patients & Methods

We performed a retrospective, multi-centre cohort study to determine unplanned re-admission rates in these patients with renal colic. We identified patients with renal colic between two centres. Patients were divided into three main cohorts: conservatively managed (n=225), stented (n=118) and ureteroscopy (n=49). Time until unplanned re-admissions and rates of unplanned admission rates within 98 days were collected. (98 days were chosen because 95% of patients with stents were managed within that time frame.) Data was collected in Excel and analysed using Kruskal-Wallis test.

Results

As shown in Table 1, stented patients have the highest readmission rates but have a longer time-to-unplanned admission.

Conclusions

Our study suggests that conservative management has the best outcome in terms of unplanned admissions in renal colic patients when feasible. We suggest acute ureteroscopy in comparison to emergency stenting in suitable patients to avoid unplanned admissions in whom intervention is necessary.

TABLE 1 Readmission Rates and Time-To-Unplanned Admission

Readmission Rate				Time to Readmission			
Management	**Rate**	**Comparison**	**Significance**	**Management**	**Time (days)**	**Comparison**	**Significance**
Stent	17.8%	Stent vs. Conservative	0.01701	Stent	6	Stent vs. Conservative	p = 0.0035
URS	12.2%	URS vs. Conservative	0.3196	URS	6	URS vs. Conservative	p = 0.78
Conservative	8.4%	Stent vs URS	0.7448	Conservative	19	Stent vs. URS	p = 0.2376

URS = uretero-renoscopy.

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CALCIUM PHOSPHATE STONES IN THE URINARY TRACT: A COHORT STUDY

Rashad Haque and Kesavapilla Subramonian
University Hospitals Birmingham, UK

Literature review suggest that phosphate stones comprise 10–25% and pose difficulties in management by lithotripsy. The aim of this study is to look for incidence of phosphate stone, associated biochemical, and radiological characters and to see if that can help to predict the stone type and thus advocate specific treatment options.

Material & Methods

Data were collected retrospectively for a total 460 patients presenting with different type of stones during the time period between 2011 and 2019. Incidence of different types of stones and associated factors like age, renal function, Hounsfield units, urinary PH were analysed. Data wre analysed using Excel software.

Results

Our study showed a high incidence (21.73%) phosphate compared to the literature. Table 1 shows the various characteristics of phosphate stones. As shown, phosphate stones tend to occur in acid pH and a significant proportion of patients tend to have abnormal kidney function. Table 1 also shows the characteristics of different type of phosphate stones in our study.

Conclusion

Our study suggest that the incidence of phosphate stone is rising. A combination of high PH with higher Hounsfield unit and a degree of renal failure can help to predict phosphate stone. A larger sample size will be necessary to further establish these findings.

TABLE 1 Various Characteristics of Phosphate Stones

Stone type	Average P^H Confidence Level (95.0%)	Average HF Confidence Level (95.0%)	Average Age Confidence Level (95.0%)	Abnormal Renal Function
Brushite	6.535 6.269–6.8	962.71 674.47–1250.95	44.57 32.37–56.77	21.5%
CAP	6.52 6.22–6.81	810.90 727.7–894.1	50.81 43.99–57.63	73.92%
HAP	6.52 6.27–6.77	833.47 733.87– 933.07	50.38 46.78–53.98	73.01%

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THE USE OF STENTS-ON-STRINGS FOR SELF-REMOVAL FOLLOWING ENDOUROLOGY: A SINGLE SURGEON EXPERIENCE

M Kailavasan, N Eli, Raghuram Devarajan
University Hospital Coventry and Warwickshire, UK

Ureteric stents are a fundamental tool in endourology. Stent removal typically involves another procedure under local. Stents attached with a string avoids the additional cost / hospital resources, however requires patient compliance and maintenance of a stent registry. The aim of our study was to examine the safety and effectiveness of the use of a stent with a string for self-removal of the stent by the patient.

Methods

We retrospectively analysed a prospectively maintained database of all upper urinary tract endourological procedures involving stent insertions carried out under the responsibility of a single surgeon over a 5-year period. Dates of insertion and removal were recorded as well as remarks of issues. Patients were instructed as well as provided with an information sheet with instructions for safe stent removal. Confirmation of an image of the removed stent with string via an email was encouraged. Patients that were reluctant were bought back to the next clinic to remove the stent. Patients were contacted additionally to check on successful removal.

Results

During a 5-year period, 388 ureteric stent insertions were inserted following endourological procedures. A total of 62% (237/388) of stents inserted during this time were in men. 163 stents were inserted with strings attached. Approximately 56% of these stent-on-strings were inserted into male patients.

Median time that the stent remained in situ was 4 days (IQR: 2–8days). Successful stent removal occurred in >99% of cases, either by the patient at home or during clinic. Complications of stent-on-strings included accidental removal (2.5%), incontinence (1.2%), sepsis (0.6%) and string falling out (0.6%).

Discussion

The use of a stent with a string attached for self-removal after URS appears safe and effective for patients. If patients are appropriately selected this method can be used to decrease healthcare utilisation and the related financial burden. We aim to standardise and improve this practise prospectively in the unit.

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MEDICAL MANAGEMENT OF URIC ACID STONES: A SINGLE SURGEON EXPERIENCE

N Eli, M Kailavasan, Raghuram Devarajan
University Hospital Coventry and Warwickshire, UK

Uric acid stones make up about 10–15% of all renal stones. With changing demographics and rising prevalence of metabolic syndrome, it is possible that the actual prevalence of uric acid stones is underestimated. The mainstay of medical management of uric acid stones is alkalinisation of urine aiming to dissolve formed stones and prevent new stone formation. We reviewed a cohort of patients with known or suspected uric acid stones medically managed by a single urologist across two different NHS institutions.

Methods
We retrospectively analysed a cohort of 16 patients placed on medical therapy for uric acid stones.

Results
A total of 75% of the patients had pure uric acid stones with an average stone size of 16mm (range 6–27 mm) and a mean Hounsfield unit of 507. A total of 50% of the patients had elevated serum uric acid levels. There was complete medical dissolution of stones in 25% of the cases and radiological evidence of reduction in stone size in the remainder of cases that remain on medical therapy with monitoring of stone size/ symptoms.

Discussion
Urine Alkalinisation by pharmacological means appears to be an effective treatment option for patients with known uric acid stones with the possibility of complete stone dissolution.

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