繼續教育課程積點審定申請表

	授課講師學經歷	
姓 名	楊文智 醫師	
聯絡電話	04-24632000 轉 66825	
現職單位 名稱	澄清綜合醫院 泌尿外科 職稱 主治醫師	
專 長	泌尿道腫瘤、前列腺肥大、腎結石、膀胱結石、血尿、頻尿、小便無 尿道下列、隱睪、陰囊腫痛、夜尿、尿失禁、男性不孕	力、
學經歷	學經歷: 現任泌尿外科主治醫師 台灣大學醫學士 秀傳醫院泌尿科主治醫師 桃園醫院泌尿科主任 專業證照: 醫師證書 泌尿科專科醫師證書	
符合資格 (勾選)	 □(一)具有教育部審定講師級(含)以上資格者。 □(二)護理人員或其他領域枝講師,需具有政府核發枝專業證書(護理人員常理師),並符合下列資格(1)碩士以上學歷,有三年(含)以上授課領域經歷,大學學歷,有五年(含)以上授課領域經歷;(3)專科學歷,有七年(含)」課領域經歷。 ■(三)專科醫師領有證明文件者。 □(四)現(曾)任主管機關相關職務者。 	需為護 策 ;(2) 以上授
主辦單位	澄清綜合醫院 醫教室	
聯絡電話	04-24632000轉66825 聯絡人 蔡雨廷	
課程名稱(主題): 鹿角狀腎結石治療之外科進展 課程日期:105.04.29, 課程時間:07:30~09:00 課程地點: 澄清綜合醫院(平等)3F 會議室—台中市中區平等街 139號		

摘要:

Staghorn calculi :Upper urinary tract stones that involve the renal pelvis and extend into at least 2 calyces are classified as staghorn calculi (see image below).

Management of renal staghorn stone : Introduction · Medical therapy · Shock-wave lithotripsy monotherapy

Surgical treatment : Percutaneous nephrolithotomy (PCNL)

Open stone surgery ↔ Robotic, laparoscopic Pyelolithotomy 、Extended Pyelolithotomy Nephrolithotomy : Nephrolithotomy 、BisectionAnatrophic nephrolithotomy Retrograde intrarenal surgery (RIRS) Although all types of urinary stones can potentially form staghorn calculi, approximately 75% are composed of a struvite-carbonate-apatite matrix. Struvite is magnesium ammonium phosphate; a Swedish geologist named Ulex discovered the substance in bat droppings and named it after his friend and mentor, the 19th-century Russian diplomat and naturalist Baron von Struve.

Problem

Struvite stones are invariably associated with urinary tract infections. Specifically, the presence of urease-producing bacteria, including Ureaplasma urealyticum and Proteus species (most common), Staphylococcus species, Klebsiella species, Providencia species, and Pseudomonas species, leads to the hydrolysis of urea into ammonium and hydroxyl ions. Escherichia coli does not produce urease and is not associated with struvite stone formation. Other common bacteria that have not been shown to produce urea include Citrobacter freundii, enterococci, and streptococci.

The resulting increase in ammonium and phosphate concentrations combined with the alkalotic urine (pH >7.2) is necessary for struvite and carbonate apatite crystallization. Magnesium ammonium phosphate crystals (MgNH4 PO4 \cdot 6H2 O) are admixed with carbonate apatite (Ca10 (PO4) 6 \cdot CO3) in varying proportions along with matrix. The proportion of matrix, typically low molecular weight mucoproteins, is greater than in other types of calcium-based stones and is thought to protect the bacteria from antimicrobials.

Staghorn calculi represent a less-common nephrolitiasis subgroup so named because the significant stone burden that fills the renal pelvis and calyces forms a shape on radiographs that resembles a deer's horns.

Most staghorn stones in Western society are composed of struvite and can cause significant morbidity and mortality if left untreated; therefore, large struvite stones must typically be removedInterestingly, an article investigating the structural analysis of renal calculi in northern India reported that over 90% of staghorn stones were composed of oxalates In a study from southern Thailand, the most common component of staghorn calculi was uric acid; struvite was found in only 11.6% of cases. A US study, published in 2011, reported that slightly over half of complete staghorn calculi were metabolic in origin, consisting of calcium phosphate (55%), uric acid (21%), calcium oxalate (14%), or cystine (10%).

Unlike other urinary stones that commonly produce symptoms (eg, renal colic) that necessitate intervention, treatment of struvite stones often occurs in patients without classic signs of nephrolithiasis; this is because large staghorn calculi may not cause acute renal or ureteral dilatation and resultant pain.

Introduction

Medical therapy

Shock-wave lithotripsy monotherapy

Surgical treatmen : Percutaneous nephrolithotomy(PCNL) : Open stone surgery · Pyelolithotomy · Extended Pyelolithotomy

Medical Therapy

Staghorn calculi resulting from urease-producing bacteria are best managed with complete surgical removal of the stones. Medical therapy alone cannot rid the patient of struvite calculi and is typically adjunctive in nature.

Nevertheless, nonsurgical measures may control life-threatening sequelae of untreated stones and may represent the best option in patients with significant comorbidities.

Urease inhibitors

The most successful method of oral chemolysis is with urease inhibitors. Acetohydroxamic acid (AHA) is the most widely used irreversible inhibitor of bacterial urease. AHA has a high renal clearance, can penetrate the bacterial cell wall, and acts synergistically with several antibiotics.

Suppressive antibiotic therapy may prevent pyelonephritis and associated systemic infection and may help inhibit stone growth. Sterilization of the urine with antimicrobial treatment alone can partially dissolve some struvite stones. However, only a single case report exists in the literature of prolonged oral antibiotic (dicloxacillin) therapy alone resulting in complete resolution of an infection stone Therefore, suppressive antibiotics should be viewed primarily as a means of inhibiting stone growth and as infection prophylaxis. Percutaneous nephrolithotomy (PCNL)

has a high rate of success for stone removal, over 98% for stones that remain in the kidney, 88% for stones that pass into the ureter.

Standard PCNL has a higher rate of complications than extracorporeal shock wave lithotripsy;

however, it is more successful in removing calculi.

The overall rate of complications following PCNL is reported as 5.6% in one recent study and 6.5% in a second article. About 20% of patients scheduled for PCNL require a blood transfusion during the procedure, with 2.8% needing treatment for bleeding after the procedure. The rate of fistula formation is about 2.5%.