complication rate was 9% which included bleeding, sepsis etc. 5% of patients were discharged from the day care room.

CONCLUSIONS: The PCNL procedure is safe and effective in suitable patients and offers good stone clearance with minimal morbidity.

Source of Funding: none

MP68-15 SUPINE PERCUTANEOUS NEPHROLITHOTOMY FOR STAGHORN CALCULI – PROSPECTIVELY RECORDED EXPERIENCE IN A SINGLE TERTIARY REFERRAL ENDUROLOGY UNIT


INTRODUCTION AND OBJECTIVES: Clearing staghorn calculi can take multiple procedures and multiple modalities with significant associated morbidity. In order to evaluate the safety and effectiveness of sPCNL for staghorn stones, we prospectively recorded patient characteristics, operative details and outcomes of these cases over a nine-year period.

METHODS: We present our experience of supine percutaneous nephrolithotomy (sPCNL) for staghorn calculi performed at a single tertiary referral endourology unit, by two senior endourologists. Data were prospectively recorded in a pre-designed anonymised database. Basic demographic information, detailed radiological information regarding stone size, number and position and comorbid information were entered, followed by post-operative entry of operative detail, stone clearance, following CT imaging, within 3 months post-sPCNL and complications, were graded according to the Clavien-Dindo classification.

RESULTS: 74 patients underwent sPCNL for staghorn calculi between February 2007 and August 2016. These included 32 (43%) female and 42 (57%) male patients, with a median age of 58 (range 18-82), median BMI of 27 (20-46) and median Charlson Comorbidity Index of 2.5 (0-8). 13 (18%) of patients had partial staghorn and 61 (82%) had complete staghorn calculi. Median stone density on CT was 970 Hounsfield Units (306-2032). Multiple access tracts were used in 9 (12%) patients. 43 (58%) had primary access in the lower pole, 17 (23%) in the interpolar region and 14 (19%) in the upper pole. Median operative time was 90 minutes (35-240). 50 (68%) patients had a ureteric stent placed intraoperatively. After a single procedure, stone clearance (residual fragments <2mm on CT, within 3 months post-operatively) was achieved in 39 (53%) of patients. 15 (20%) complications (Clavien-Dindo Grade II or above) were recorded, including 7 (10%) UTI or sepsis and 2 (3%) bleeding requiring transfusion.

CONCLUSIONS: sPCNL for staghorn calculi is safe and effective in appropriately selected and counselled patients. In particular, patients should be advised that multiple procedures may be required in order to achieve clearance and that complication rates, including bleeding and infection are higher than for less complex stones.

Source of Funding: none

MP68-16 PERCUTANEOUS NEPHROLITHOTOMY ACCESSED BY SVOF TWO-STEP DILATION WITH ULTRASOUND-GUIDED PRONE POSITION PUNCTURE FOR 11 507 PATIENTS

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INTRODUCTION AND OBJECTIVES: Objective: To evaluate the efficiency and validity of type-B ultrasound guided prone position percutaneous nephrolithotomy (PCNL) accessed by two-step dilation.

METHODS: Methods: A total of 11 507 patients with 12 203 kidneys or upper ureter calculi underwent PCNL accessed by two-step dilation percutaneous nephrolithotomy between June 2006 to Sept 2016, including 524 patients with solitary kidney, 204 with kidney cysts, 132 with horseshoe kidney, 78 with vertebral column deformity, 84 with medullary sponge kidney and 12 transplanted kidney. Stone burdens were (46.1 ± 34.5) mm in length.

RESULTS: Results: 98.1% of 12 203 operations were successful in one-session access, in which 10 922 PCNLs were accessed by single tract (89.5%), 1 048 by double tracts (8.5%) and 87 by triple-tracts (0.7%). The mean operating time was (65.4 ± 31.8) min, the mean first accessing time was (16.5 ± 12.0) min and the mean calculating dealing time was (36.1 ± 52.4) min. The stone-free rate after one session operation was 98.2% for single calculus and 71.4% for multiple or staghorn calculus. Of all the kidneys, 1 122 (9.2%) accepted another PCNL to remove the residual calculus, and the last stone-free rate of PCNL was 87.5%. During and after operation, 156 cases (1.2%) needed transfusion, 89 (0.7%) underwent selective embolization of renal artery. No injury of organs occurred except for 9 (0.07%) cases with pneumatothorax and 9 (0.07%) with septic shock.

CONCLUSIONS: Conclusion: PCNL accessed by SVOF two-step dilation with ultrasound-guided prone position puncture is effective and safe.

Source of Funding: none

MP68-17 THE CLINICAL SAFETY AND FEASIBILITY FOR ULTRASOUND GUIDED PARAVERTEBRAL BLOCK ANESTHESIA OF PERCUTANEOUS NEPHROLITHOTOMY

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INTRODUCTION AND OBJECTIVES: To evaluate the clinical safety and feasibility for ultrasound guided paravertebral block anesthesia of percutaneous nephrolithotomy

METHODS: Between December 2015 to May 2015, 58 patients with renal or ureteral calculi came to our department and performed percutaneous nephrolithotomy. Men 33 cases, women 25 cases, aged 23-66, an average of 38.7 years. Stone of maximum diameter of 1.2 ~ 4.3 cm, the average (2.35 ± 0.43) cm. 7 cases of previous ipsilateral renal surgery. All of the 58 patients were performed T10/T11, T11/T12 and T12/L1 paravertebral block anesthesia guided by ultrasound. The time to identify the exact vertebra level and perform block were recorded. Subjective symptoms were monitored during operation. Muscular strength and pain score was checked after the operation.

RESULTS: Ultrasound guided thoracic-lumbar paravertebral block was performed successfully in all of the 58 patients with no complications. The time to identify the exact vertebra level was 30±12s. The time to perform nerve block was 7±2min. None of the 58 patients complained pain during surgery. Operation time was 67 ~ 39min. After operation, ipsilateral lower extremity muscle strength grade IV in 9 cases, grade III in 46 cases, grade II in 3 cases. Postoperative hospital stay was 3 ~ 7 d, with an average (3.4 ± 1.3) d. Stone-free rate 84.5% (49/58).

CONCLUSIONS: Ultrasound guided paravertebral block can provide safe and reliable surgical anesthesia for percutaneous nephrolithotomy, which is worth widely clinical application and spread.

Source of Funding: none

MP68-18 “DOES SPLITTING OF PAPILLA MATTER DURING PCNL?” A PROSPECTIVE STUDY

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INTRODUCTION AND OBJECTIVES: The ideal puncture provides the shortest and straightest access to all calculi, avoids major vessels, bowel and lung, follows the axis of the calyx, causes minimal parenchymal damage and is bloodless. It is well accepted that best way to
access the pelvicycalceal system is through the tip of the papilla. We
describe the ‘split papilla’ which provides endoscopic evidence of a
correct puncture. The objective was to study the hemoglobin fall and blood
transfusion rate between split papilla group versus non split papilla group.

METHODS: All punctures were done by using the triangulation
technique using uroscopy. Tracts were dilated using a balloon dilator.
Once the stone was cleared the Amplatz was withdrawn into the tract to
visualize the split papilla. Which appeared as triangular flaps with
straight lines converging towards the apex. We compared endoscopic
time, drop in hemoglobin and transfusion rate in those patients in whom
the split papilla (Group A) was demonstrable versus those in whom it
was not (Group B).

RESULTS: During the study period 123 patients underwent
PCNL. 45 patients did not have split papilla, 78 patients had split papilla.
All the parameters were matched in both groups. The average fall in
hemoglobin in Group A was 1.4 (SD 1.06) and in group B was 2.2 (SD
0.9), p-value 0.001. None required blood transfusion in both the group.

CONCLUSIONS: Blood loss was significantly lesser in patients
where a split papilla could be demonstrated. A careful search for this
finding can provide the surgeon with a quality control tool to assess the
PCNL puncture.

Source of Funding: none

MP68-19
BILATERAL SINGLE SESSION PERCUTANEOUS
NEPHROLITHOTOMY: IS IT WORTH THE RISK?
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INTRODUCTION AND OBJECTIVES: We wanted to evaluate
our outcomes of a single-session bilateral PCNL procedure during 16
years of practice.

METHODS: Between 2000 and 2016, 85 patients underwent 89
bilateral Percutaneous Nephrolithotomy (PCNL) procedures. In this
study we collected the epidemiological and clinical data of the patients
and the intervention results. A successful treatment was defined as a
stone free kidney or with a stone fragment of less than 5 mm and no
need for an additional procedure within 1 year of initial treatment.

RESULTS: Patients’ age range was 1.5-87 years (mean 53.2,
median 54), 42 women and 43 men. The mean and median hospitaliza-
tion days were 11. Seventeen patients (19%) were known to suffer
from metabolic disorders. There was one patient with abnormal anat-
omy in both kidneys and five patients with abnormal anatomy in one
kidney. The mean stone burden per kidney was 23 cm3 and the median
was 8 cm 3. The mean and median operating time was 198 and 185
minutes respectively. Postoperative complications were noted in 64
patients divided by Clavien score: grade I - 20 % (13), grade II - 44%
(28), grade III - 33% (21), grade IV - 0%, grade V - 3% (2). The most
serious complications included: bleeding that required blood transfusion
in 25% (21), pneumothorax that required drainage in 6% (5), pleural
effusion that required drainage in 13% (11), sepsis 4.7% (4), two pa-
tients died during their hospital stay (one aged 74 had urosepsis, the
other aged 88 died of pulmonary emboli). Overall, 75% of the operated
kidneys, and 63% of the procedures achieved either a stone free state
or insignificant stone without the need for further intervention.

CONCLUSIONS: Bilateral PCNL allows most patients with a
very large stone burden to be fully treated in one session and achieve
complete recovery. However, these procedures have a high rate of
complications, including death. Therefore, patient selection and metic-
ulous technique is of paramount importance.

Source of Funding: none

MP68-20
INTEROBSERVER VARIABILITY AMONG SURGEONS
AND RADIOLOGISTS IN ASSESSMENT OF GUY’S STONE
SCORE AND S.T.O.N.E. NEPHROLITHOMETRIC SCORE:
A PROSPECTIVE EVALUATION.
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INTRODUCTION AND OBJECTIVES: Several scoring systems
have been developed to assess stone complexity in patients undergo-
ing percutaneous nephrolithotomy (PCNL) which may help in preoper-
ative patient counselling, surgical planning and stratification of
outcomes. Their precise role is yet to be established; moreover, the
associated interobserver variability may lead to poor reproducibility of
these scoring systems. The present study aims at assessing the
interobserver variability among the surgeons performing the PCNL and
compares with scoring done by the radiologists for the Guy’s stone
score and S.T.O.N.E. nephrolithometry score.

METHODS: Patients undergoing PCNL between February
2016 and September 2016 were prospectively enrolled. Preoperative
computed tomography was done in all patients. The Guy’s stone score
and S.T.O.N.E. nephrolithometry score were independently calculated
by 8 surgeons (5 consultants and 3 residents) and 4 radiologists (2
consultants and 2 residents). All patients underwent either standard
PCNL or mini PCNL by one of the 5 surgeons (consultants). Consis-
tency among the scores was assessed using Cronbach’s alpha. Receiver
operative characteristic (ROC) curve was used to predict the
stone free rate (SFR) using average scores of the surgeons as well as
the radiologists individually.

RESULTS: 157 patients underwent PCNL during this period.
The SFR was 71.3% (112/157 patients). Cronbach’s alpha among the 8
surgeons and 4 radiologists was 0.957 and 0.994 respectively. ROC
curve revealed that the S.T.O.N.E. nephrolithometry score of the sur-
geons (AUC = 0.806) as well as the radiologists (AUC = 0.810) had
better predictive accuracy as compared to Guy’s stone score by sur-
geons (AUC = 0.738) and the radiologists (AUC = 0.747).

CONCLUSIONS: The S.T.O.N.E. nephrolithometry score has
superior reproducibility among the surgeons and radiologists and is a
better indicator of SFR compared to the Guy’s stone score.