The implementation of ANP-led LUTS clinics can reduce waiting time from GP referral and the need for urology out-patient attendance.

Methods: New patients were triaged by consultant urologists using agreed OSPIP criteria and key performance indicators. An extensive review of long waiting return patients was undertaken by a consultant urologist and appropriate patients were also triaged for review in the ANP-led clinic. The aim was to manage as many as possible “virtually” using IPSS and proforma questionnaires using an electronic database.

Results: 596 patients were reviewed via telephone assessment over six months. After the initial assessment, (389) 65% were discharged following lifestyle advice/education. 135 (22.5%) required lifestyle review or pharmacological modification. For 51 (8.5%) patients, a physical assessment was necessary. 21 (3.5%) were referred back to urology for various reasons (raised PSA, frank haematuria, need for flexible cystoscopy).

Conclusion: During the Covid era, introduction of an ANP-led male LUTS clinic has dramatically reduced the numbers initial and return attendance to urology out-patient clinics. Further work will be carried out in relation to patient satisfaction, GP education and expanding the ANP workforce.

References

Abstract 14
Mechanisms of promoting safer intrarenal pressure during flexible ureterorenoscopy

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Introduction: Elevated intrarenal pressure (IRP) during flexible ureterorenoscopy (FURS) is a predictor of postoperative complications. The aim of this study is to evaluate IRP during FURS in a porcine kidney model in order to determine the safest combination of irrigation device, ureteral access sheath (UAS) and irrigation system.

Methods: Urinary tracts were harvested from Landrace pigs slaughtered for the food chain. Two flexible ureteroscopes, 8.7Fr and 9.5Fr were evaluated. Irrigation systems evaluated included; TraxerFlow™ (Rocamed, France), SAPSTM single action pumping system (Boston Scientific, USA), Pathfinder Plus™ (Utah Medical, USA), and a manual “bag squeeze”. This experiment was conducted with no UAS, followed by an 11/13Fr UAS and then a 12/14Fr UAS. IRPs were measured in the prepared porcine kidney during all possible combinations of scope, UAS and irrigation system.

Results: Pressures were significantly reduced when using 12/14Fr UAS compared to 11/13Fr UAS (p = 0.006) and when using 11/13Fr UAS compared to no UAS (p = 0.02). Pressures were significantly reduced with the 8.7Fr scope compared to the 9.5Fr scope (p = 0.001). SAPSTM generates significantly greater IRP than TraxerFlow™, Pathfinder Plus™ and a “bag squeeze” (p < 0.05). The most dangerous combination was using the SAPSTM, no UAS and larger ureteroscope leading to an IRP of 100.6 ± 16.1 cmH2O. The safest combination was using Pathfinder Plus™ with a 12/14Fr UAS and smaller ureteroscope giving an IRP of 11.6 ± 3.65 cmH2O.

Conclusion: In order to maintain safe IRPs during FURS urologists should use large UAS, narrow ureteroscopes and be cautious in selection of an irrigation device.

Abstract 15
Development of a 3D-printed biodegradable sling for stress urinary incontinence surgery

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Introduction: The aim of this study is to design a biodegradable synthetic sling fabricated using 3D printed polycaprolactone (PCL) to be used for stress urinary incontinence (SUI) surgery and compare it to existing products.

Methods: PCL meshes were 3D printed using a fused deposition modelling (FDM) printer. A PCL-collagen composite scaffold was also fabricated for evaluation. Uniaxial tensiometry was performed to mechanically compare the candidate scaffolds with commercially available polypropylene (PP) mesh (Gynecare TVT™ Exact®) and acellular porcine dermal collagen (Pelvicol™). Murine mesenchymal stem cells (MSCs) were seeded onto PCL and PCL-collagen scaffolds and interval assessments of cell viability were performed.

Results: The PCL scaffold was significantly less stiff than PP (elastic modulus: 0.02 ± 0.01 MPa versus 0.06 ± 0.01 MPa, p = 0.0006) and Pelvicol™ (elastic modulus: 0.02 ± 0.01 MPa versus 0.13 ± 0.01 MPa, p < 0.0001). PCL also had an ultimate tensile strength closest to that of healthy native pelvic floor tissue when compared to PP and Pelvicol™ (1.52 ± 0.07 MPa versus 7.17 ± 0.25 MPa versus 5.47 ± 0.05 MPa). There was no difference between the PCL scaffolds and the PCL-collagen scaffolds in terms of mechanical properties. Viable cells were seen on PCL scaffolds at 28 days demonstrating that the new materials retained significant biological functionality.

Conclusions: The mechanical properties of PCL are more favourable for pelvic floor reconstructive surgery compared to PP and porcine collagen. In addition, PCL scaffolds provide good cellular biocompatibility indicating that PCL may integrate into tissues as it biodegrades.

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Abstract 16
The impact of COVID-19 on the management of renal colic including surgical interventions during the first wave of the pandemic

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Introduction: Management of renal colic has changed as a result of COVID-19, with an overall aim of reducing hospital admissions and preventing stone related morbidity. We aim to review how the treatment of acute renal colic has been affected by comparing similar times in 2019 to 2020.

Methods: A retrospective study of all new presentations of acute renal colic admissions during 01/04/2019–31/05/2019 were compared to 01/04/2020–31/05/2020, with data such as demographics of patients, clinical features, stone characteristics and treatment noted.

Results: 38 patients were admitted in 2019, compared to 40 in 2020. Ureretic stones were commonly found in both years (79%in2019 and 85%in2020) than renal stones, with the majority of ureteric stones located distally.

The 2020 cohort saw more conservative management (25%vs21%), as well as a decrease in emergency decompression (stent/nephrostomy).