Objective: To evaluate the treatment of uretero-ileal strictures after dilatation catheter bladder tumour cystectomy in the Department of Urology, Ehu Oran, Algeria, as the dilatation catheter has been proposed as an alternative to open surgery in the treatment of uretero-ileal stenosis due to its low morbidity.

Methods: We performed a descriptive study on the results of balloon catheter treatment of uretero-ileal stenosis for a period of 4 years, from 2013 to 2016. Treatment consisted of catheterisation of antegrade or retrograde stenosis, dilatation of the stenosis with the balloon catheter, and then measurement of a mono-J catheter.

Results: During the period studied, we performed 92 cystectomies followed by 67 (72.82%) trans-ileal type bypasses. In all, 17 patients (25.3%) developed a stenosis, including eight left stenoses, five straight stenoses, and four bilateral stenoses. The average follow-up was 1.1 years. The average age was 58 years. Most patients had imaging at 3-months postoperatively. The pattern of discovery was fortuitous during an imaging examination for 11 patients (64.7%), emergency admission was evaluated at 35.2% for hyperalgic renal colic, acute renal failure with anuria and pyelonephritis. All patients had an emergency nephrostomy and were then scheduled for dilatation and placement of a mono-J probe. Nine stenoses (eight patients) were permeable with balloon dilatation and placement of a mono-J. In four patients the probe remained with an iterative nephrotomy change, and five patients had open surgery to re-stabilise the stenosis. Seven of the mono-J probes were placed antegrade. Six patients (75%) who received dilatation recurred and had monojector ablation.

Conclusion: The dilatation catheter procedure is a minimally invasive and effective therapeutic option to avoid complete stenosis that requires a substantial operative procedure. In our department, this option is considered the first-line treatment, the surgical re-implantation or disassembly of Bricker was reserved for complete waterproof stenosis.

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[53] Neutrophil-to-lymphocyte ratio in non-muscle-invasive bladder cancer

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Objective: To evaluate the value of the neutrophil-to-lymphocyte ratio (NLR) in non-muscle-invasive bladder cancer (NMIBC) with different prognostic factors and with the risk of progression and recurrence of this neoplasm. The NLR has been recognised as a prognostic factor for multiple cancers as a systemic inflammatory response marker.

Methods: Retrospective analysis of 103 patients diagnosed with high-grade NMIBC treated by transurethral resection of the tumour plus adjuvant bacille Calmette-Guérin (BCG). Epidemiological data analysed included: gender, age, smoking habits, other neoplasms. Tumour data analysed included: size, stage, pattern, number, association with carcinoma in situ (CIS), and treatment-related effects. NLR was calculated based on a 30-day pre-transurethral resection blood sample. Statistical analysis included chi-squared test, Kaplan–Meier, and uni- and multivariate Cox regression analyses.

Results: In all, 97 patients (94.7%) were men, 53 were aged ≥70 years (51.5%) and 63 were smokers (61.2%). Overall, 85 (82.5%) were primary tumours, 62 (60.2%) were single, 65 (63.1%) were >3 cm, 68 (66%) were stage T1, and 87 (84.5%) were associated with CIS. The main BCG-related side-effect was irritative voiding symptoms in 19.4% of the patients. In all, 30.1% of the patients had a NLR of ≥2.5, with a median (interquartile range [IQR]) of 2 (1.47–2.71). The median (IQR) follow-up was 40 (19–81.5) months. A NLR of ≥2.5 was significantly related with smoking habits (P = 0.003). None of the other factors assessed showed any statistical significance. The 5-year recurrence-free survival for a NLR of <2.5 was 80% and for a NLR of ≥2.5 was 75%, without statistical significance. On uni- and multivariate Cox regression analyses a NLR of ≥2.5 was not a predictive factor for recurrence of high-grade NMIBC or progression.

Conclusion: In our study NLR failed to show its value as an independent prognostic factor for progression and recurrence in NMIBC. A threshold NLR value of 2.5 was statistically significant in those patients with smoking habits.

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[54] Preparation of biopolymer (dextran) and gentamycin blend against multi-drug resistant bacterial infections associated with catheters

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Objective: To characterise and investigate the toxicity of biopolymer dextran (from local isolates of Leuconostoc mesenteroides ssp.) and gentamycin blend against multi-drug resistant bacterial infections associated with catheters.
Methods: Extraction, purification and characterisation of biopolymer from local isolates of L. mesenteroides were studied. Also the toxicity of the biopolymer was studied by determining the LD50 (dose required to kill half the members of a tested population after a specified test duration) of produced biopolymer.

Results: Locally isolated L. mesenteroides had the ability to produce biopolymer. No toxicity of the biopolymer was observed in mice with an LD50 of >2000 mg/kg. The antibacterial effect of the produced biopolymer was studied against pathogenic bacteria that were multi-drug resistant (these bacteria were isolated and cultured from patients with urinary catheters) by determining the minimum inhibitory concentration (MIC) at different concentrations (2–512 mg/mL). Results showed that the biopolymer had an inhibitory effect against pathogenic bacteria with a MIC of 16–64 mg/mL. The anti-biofilm effect of the biopolymer against pathogenic bacteria was studied on the urinary catheters. The results showed the anti-biofilm effect of the biopolymer with biofilm inhibition reached 78%. All isolates were resistant to tetracycline, aztreonam, cefepime, cefotaxime, cefoxitin, and gentamicin, whilst they were sensitive to imipenem, all isolates had ability to produce biofilm. The combined effect between antibiotics and biopolymer dextran was investigated against pathogenic bacteria isolated from the catheters. The antibacterial activity of gentamicin was increased in the presence of biopolymer dextran against all isolates. The anti-biofilm effect of the biopolymer dextran and its blender gentamicin was determined alone and as a blend (dextran-gentamicin) using pre-coated catheters. Results showed the biopolymer dextran-gentamicin blend had an anti-biofilm effect in catheters with a biofilm inhibition rate of 85% and 75% against E. coli and S. aureus, respectively.

Conclusion: Locally isolated L. mesenteroides had the ability to produce biopolymer. The biopolymer had an inhibitory effect against pathogenic bacteria with a MIC. Biopolymer dextran-gentamicin blend had an anti-biofilm effect in catheters of up to 85%.

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[55] Persistent haematuria and intra-prostatic haematoma following prostate biopsy: A novel method of management

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Objective: To report on an unusual case of life-threatening haematuria after transrectal prostate biopsy requiring intervention. After transrectal needle biopsies bleeding in the form of haematuria, haematospermia or haematochezia are common but typically self-limiting. Severe haematuria is uncommon and in large study of 2049 men only 0.05% had haematuria necessitating a blood transfusion.

Methods: A 66-year-old man was referred with an elevated prostate-specific antigen level of 5.4 ng/mL. Routine evaluation was normal except for mild thrombocytopenia. The prostate was 68 g with a Prostate Imaging - Reporting and Data System (PI-RADS) 4 lesion. He underwent a systematic 12-core biopsy with a 16-G needle. He was on regular aspirin, which was stopped 5 days prior to the biopsy. He developed severe urethral bleeding and haematuria 2 h after the biopsy. Initially conservative measures in the form of catheterisation and irrigation were initiated. Bleeding persisted and the patient developed tachycardia/hypotension and was stabilised with a blood transfusion. Contrast-enhanced computed tomography showed hyperdensities suggestive of haematomas within the prostate, predominantly on the right side of the gland, and a small 13 × 11 mm right apical extra-prostatic haematoma. In the arterial phase prominent arterial twigs were seen traversing the right part of the gland, and coursing medially towards the prostatic urethra, with a small area of blush observed at the level of the verumontanum posteriorly.

Results: As he continued to bleed, cystoscopy was performed, which showed spurting bleeding in the prostatic urethra to the right of the verumontanum. Coagulation was done using a resectoscope and the bleeding stopped.

Conclusion: Severe haematuria and intra-prostatic haematoma after transrectal prostate biopsy requiring intervention is rare and so experience in management is limited. Prostatic artery embolisation has been described in the past for these patients. To the best of our knowledge, this is the first report of successful cystoscopic fulguration in order to control the bleeding.

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[56] Penile fracture with urethral injury: Experience in a tertiary care hospital

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Objective: To present our experience in treating 12 cases of penile fracture with urethral injury. Penile fracture is a rare urological emergency that always requires immediate attention and it can be associated with urethral trauma in 9–20% of cases.

Methods: This was a prospective observational study extending from January 2000 to December 2016. Each