



NU Rounds

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Dear Doctor,

Greetings from Micro Labs limited. We are happy to bring you “NU Rounds” which contains latest and interesting news in the field of Nephrology and Urology.

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Looking forward to your valuable feedback

Best Regards,

Medical Team, Micro Labs Ltd



1. Comparison of urethral advancement and glanuloplasty to tubularized incised plate urethroplasty for distal hypospadias correction.

Introduction:

Hypospadias is a male external genital anatomical congenital abnormality. It is distinguished by aberrant development of the urethral fold and the ventral foreskin of the penis, which results in incorrect urethral opening location. In hypospadias, the external urethral meatus may be malpositioned to varying degrees and may be accompanied with penile curvature.¹ Hypospadias affects about one in every 200 to 300 male births. The global prevalence of this congenital abnormality varies. In over 70% of instances, the meatus is positioned distally. Several surgical procedures for distal hypospadias correction have been published; however, there is no perfect approach.² This study evaluates the feasibility, duration of surgery, and complications of urethral advancement and glanuloplasty and TIP techniques.

Tubularized incised plate urethroplasty and urethral advancement & glanuloplasty have similar short-term effects. In many cases, urethral advancement and glanuloplasty are preferred, particularly in circumcised children or those with a small urethral plate.

Methods:

This prospective randomised comparative study was carried out at University Hospitals. Fifty-seven patients with various kinds of hypospadias were evaluated for eligibility. Seven instances were eliminated due to the presence of severe chordee ($n = 3$), proximal variation ($n = 2$), and repeated episodes of hypospadias ($n = 2$). Fifty cases were randomly assigned into two groups with a 1:1 ratio (computer-generated randomization). Twenty-five instances received urethral advancement and glanuloplasty, while the remaining cases received tubularized incised plate (TIP) urethroplasty.

Results:

The average age of all cases studied was 4.2 years. 52% had coronal or sub-coronal meatus, while 48% had glandular meatus. Both groups were age and meatus location matched ($p > 0.05$). There was no statistically significant difference between the two groups in terms of operation length, postoperative pain, or postoperative hospital stay. Furthermore, neither group differed significantly in terms of late complications (meatal stenosis, meatal retraction, fistula, and glans dehiscence).

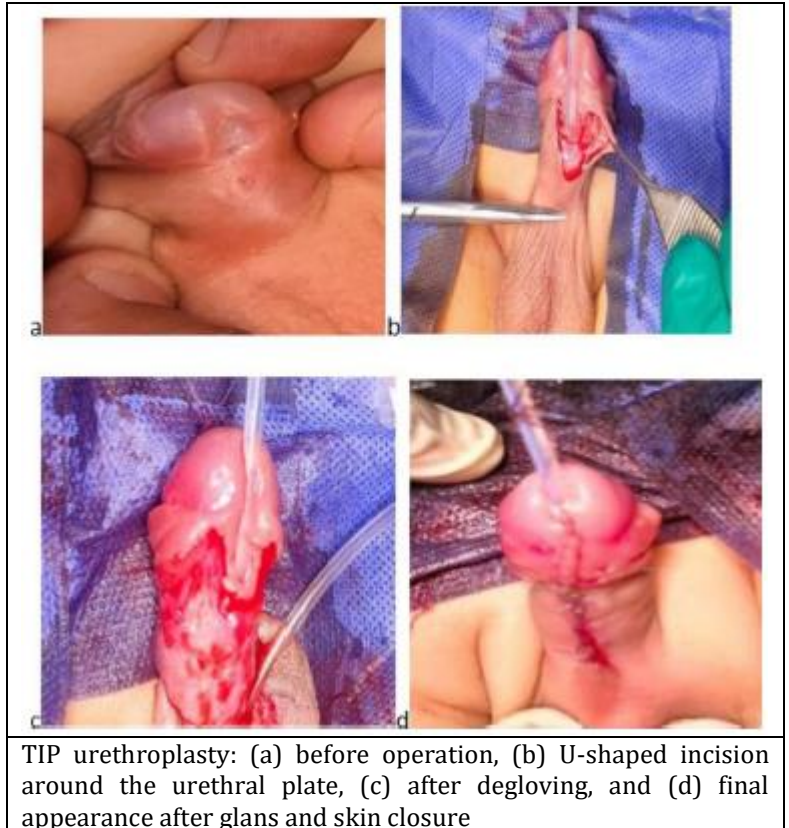
Discussion:



The purpose of this study is to assess the feasibility, duration of operation, and complications of urethral advancement and glanuloplasty and TIP methods for distal hypospadias repair. Many research reported on their findings while employing the urethral advancement and glanuloplasty approach (with various modifications).² Macedo Jr et al. treated 164 individuals with distal hypospadias utilising their GUD (glandular urethral disassembly) procedure in a comparable research. They discovered problems in six individuals (3.6%), including five fistulas (3%) and three glans dehiscences (1.8%) (two of them had both). They believed that advancing the urethra without reconstructing the glans would yield poor outcomes.³

Conclusion:

According to this study, urethral advancement and glanuloplasty and TIP urethroplasty had equivalent short-term effects. In some cases, urethral advancement and glanuloplasty are favoured, particularly in circumcised children or those with a small urethral plate. More research is needed to confirm our findings and determine the best strategy in these situations.



TIP urethroplasty: (a) before operation, (b) U-shaped incision around the urethral plate, (c) after degloving, and (d) final appearance after glans and skin closure

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2. Evaluation of urological complications and urinary tract infections in External ureteric stent versus internal double J stent in kidney transplantation

Introduction:



Urologic complications (UCs) and urinary tract infections (UTIs) are common problems following kidney transplantation.¹ The implantation of a stent at the vesicoureteric anastomosis also contributed to a decrease in UCs.² An external ureteric stent (ES), which is a flexible catheter that drains externally, percutaneously, from the donor kidney pyelum through the suprapubic bladder region, and a totally internal double J stent (DJ) are both used to stent the vesicoureteric anastomosis.¹ The current study aims to determine whether changing from an ES to a DJ stenting strategy resulted in equivalent results in terms of UCs, UTIs, patient- and graft outcomes. Furthermore, to identify potential risk factors for UCs and UTIs in the months following kidney transplantation.

An internal double J stent is associated with a reduced incidence of UTIs and a comparable rate of Urologic complications as compared to external ureteric stent, and is thus the recommended approach for stenting the vesicoureteric anastomosis.

Methods:

The stenting protocol was altered from exterior ureteric stent (ES) to internal double J stent (DJ). Researchers evaluated the prevalence of UCs and UTIs in 697 kidney recipients who had ES or DJ. The primary outcomes were the occurrence of UCs and/or UTIs within the first six months after kidney donation. UCs were classified as urine leakage or ureter stenosis necessitating intervention (surgical, percutaneous, and/or stent implantation). Secondary outcomes included graft function after 6 months [measured as creatinine clearance (ml/min) and proteinuria (g/24h)] and delayed graft function.

Results:

An ES was used in 403 patients (57.8%), and a DJ in 294 (42.2%). ES was removed 7-12 days after surgery, and DJ 3-4 weeks afterwards. Both groups experienced the same level of induction immunosuppression. At 6 months, the primary outcomes were UC (urinary leakage/ureter stenosis) and UTI, which were related to the stenting operation as well as clinical and transplant features. The prevalence of UCs was comparable in ES (8.4%) and DJ (6.8%), $p=0.389$. The usage of ES was found to be a significant risk factor for UTI (OR 1.69 (1.15-2.50), $p=0.008$). In the DJ group, posttransplant hospitalisation was much shorter. Despite more acute rejection episodes with ES (ES/DJ: 16.4%/6.1%, $p<0.001$), there were no clinically significant differences in graft outcomes.

Discussion:

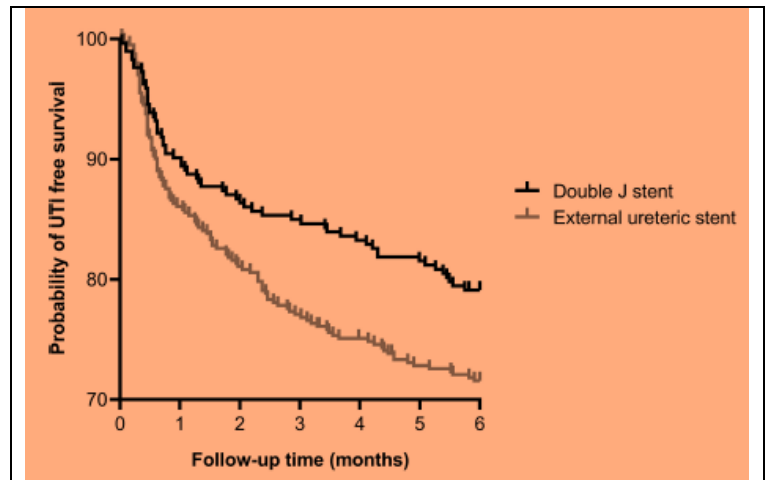
Prophylactic stenting of the vesicoureteric anastomosis is currently normal practise in the majority of kidney transplant centres. There is no best stenting type or duration. This study examined the outcomes of a DJ and an ES stenting strategy in terms of UC and UTI incidence.¹ Despite the fact that patients with an ES had (slightly) more UCs and UTIs, there were no clinically significant differences in graft outcome 6 months after kidney



transplantation. Creatinine clearance was marginally but considerably decreased in the

ES group, and proteinuria was more common in these patients. Higher frequencies of UCs

and UTIs in the ES group may have contributed to these minor but clinically insignificant variations.^{3,4} Interestingly, the ES group had a much greater rate of acute allograft rejection, most typically within the first 30 days following transplantation, which may have contributed to the modest variations in graft outcomes at 6 months. Researchers were unable to discover a clear cause for the difference in rejection episodes because the baseline immunological parameters of the ES and DJ groups were equivalent.¹



Kaplan-Meier curve showing the probability of UTI free survival within 6 months after kidney transplantation for external ureteric stent (n=403, UTI n=114) and double J stent (n=294, UTI n=61); HR 1.43 (95% CI 1.06–1.93), p=0.023. Ten cases were censored before a urinary tract infection occurred

Conclusion:

Overall, using a DJ instead of an ES to stent the vesicoureteric anastomosis after kidney transplantation results in significantly fewer urinary tract infections and a shorter hospitalisation length post-transplantation, lowering healthcare expenses. Urological problems were equally common in both groups. There is no evidence that a DJ performs worse than an ES in terms of transplant results. According to these findings, using a DJ to stent the vesicoureteric anastomosis during kidney transplantation is the recommended technique.

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3. Short and long-term efficacy of external shock wave therapy for chronic pelvic pain syndrome.



Introduction:

Chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS) is characterised as pelvic pain or discomfort for at least three of the previous six months. It has been linked to a variety of lower urinary tract symptoms, psychological repercussions, and sexual dysfunction.¹ CPPS represents one of the most prevalent yet difficult conditions for patients and urologists to manage, and it has an impact on men's quality of life. Extracorporeal shockwave therapy (ESWT) is a relatively new treatment option for CPPS patients.² As a result, the current prospective cohort study evaluated the short and long-term efficacy of ESWT monotherapy in a large sample of CP/CPPS patients.

Extracorporeal shockwave therapy is a safe and effective therapy technique for individuals with CPPS, with short-term and long-term improvements in total, pain, urinary symptom, and quality-of-life scores.

Methods:

This prospective self-controlled study comprised 75 patients diagnosed with CPPS at our tertiary pelvic pain clinic between. Patients were referred for ESWT and underwent four treatments one week apart. The National Institute of Health - Chronic Prostatitis Symptom Index (NIH - CPSI) questionnaire was used to measure patients' symptom severity before starting therapy, as well as at 0, 12, and 26 weeks after completing ESWT. Demographics, clinical data, and complications were also documented.

Results:

The average age of the patients was 37.9 ± 8.6 years, and the average duration of symptoms was 5.45 years. All patients improved across all NIH - CPSI domains immediately after completing ESWT (week 0 post-treatment), with a mean difference improvement of 9.26 ± 5.7 , 5.2 ± 3.4 , 1.19 ± 2.18 and 2.88 ± 2.46 points in total, pain, urinary symptoms, and quality-of-life scores, respectively. At 12 weeks, 80.9% of patients reported improvements, with mean difference improvements in total, pain, urinary symptoms, and quality-of-life scores of 8.07 ± 7.56 , 4.55 ± 4.6 , 0.76 ± 2.48 , 2.85 ± 2.78 , respectively. Again, no patients experienced any treatment-related problems. At 26 weeks, 82.4% of patients reported improvements, with mean difference improvements of $8.29 \pm 7.7\%$, 4.92 ± 4.69 , 0.75 ± 2.96 , 2.5 ± 3.0 in total, pain, urine symptoms, and quality-of-life scores. There were no treatment-related challenges in any of the patients.

Discussion:

ESWT is a new and promising therapy option for CP/CPPS. The majority of research evaluating the effectiveness of ESWT in CP/CPPS patients had a short term follow up. Long-term ESWT efficacy trials (6-12 months) used small samples.² The longest follow-up study looked at 31 CP/CPPS patients who had ESWT after failing to respond to a combination of oral alpha-blockers, antibiotics, and antiinflammatory medication, and found improvement in 26 patients (83.9%) that was maintained at 12 months.³ The



current study is one of the largest single arm trials evaluating the longer term efficacy and safety of ESWT, with 75 CP/CPPS patients diagnosed by clinical characteristics and pre-treatment NIH-CPSI score and followed up for 26 weeks after treatment completion.²

Domain	Pre-Treatment value vs			p ^a	p ^b	p ^c
	PostT week 0	PostT week 12	PostT week 26			
	n = 71	n = 63	n = 57			
Pain	5.2 ± 3.4	4.55 ± 4.60	4.92 ± 4.69	<0.001	<0.001	<0.001
Urinary symptoms	1.19 ± 2.18	0.76 ± 2.48	0.75 ± 2.96	<0.001	0.018	0.060
Quality of life	2.88 ± 2.46	2.85 ± 2.78	2.50 ± 3.00	<0.001	<0.001	<0.001
Total	9.26 ± 5.77	8.07 ± 7.56	8.29 ± 7.70	<0.001	<0.001	<0.001

Based on pairwise analysis; Cell values represent pre-treatment value minus the value for the given post-treatment time point, positive values indicate an improvement; PostT; post- treatment; ^aPre-Treatment vs PostT week 0; ^bPre-Treatment vs PostT week 12; ^cPre-Treatment vs PostT week 26.

Differences in NIH-CPSI scores between pre-treatment and post-treatment week 0, 12 and 26 values.

Conclusion:

ESWT is safe, accepted, and well tolerated in CP/CPPS patients, with early relief of symptoms beginning immediately after treatment completion and effectively sustained over the long term for up to 26 weeks, particularly in the pain and quality of life domains. Urinary symptoms improve initially but do not improve statistically over time. Further research on the most successful treatment protocol/s would be favourable.

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4. A case report of Idiopathic systemic capillary leak syndrome with recurrent acute kidney injury.

Introduction:

Idiopathic systemic capillary leak syndrome (ISCLS) is a rare medical condition characterised by episodes of capillary endothelial cell dysfunction with fluid leakage into the interstitial space, resulting in severe hypotension, hemoconcentration, hypoalbuminemia, and generalised edema.¹ Each episode has the potential to cause multiorgan failure due to systemic hypoperfusion. ISCLS can cause frequent episodes of acute life-threatening shock. Increased capillary permeability causes reversible plasma movement into the interstitial spaces, which is followed by the manifestation of associated symptoms or consequences, such as renal failure. This illness has the potential



to be life-threatening and it is easily misdiagnosed. Acute kidney injury (AKI) is a common complication in ISCLS patients, and it can lead to chronic renal failure needing hemodialysis.² Here is a case of ISCLS with recurrent AKI that was successfully treated with theophylline and long-acting oral 2-agonist.

Case Presentation:

A 47-year-old male was hospitalised after presenting to the emergency room with complaints of general weakness, lower back pain, and abdominal pain that began the same day. Except for overworking, he has made no recent major changes to his lifestyle or food. His vital signs were stable at presentation, but his blood pressure dropped to 74/60 mmHg 3 hours later. During physical examination, the patient was awake and only had a dry tongue and axilla. His vital signs were steady at the time of presentation, but his blood pressure had dropped to 74/60 mmHg three hours later. Initial laboratory tests revealed several abnormalities, including an elevated white blood cell count (WBC) of $29,180 \times 10^6$ cells/L, hemoglobin (Hgb) of 22.6 g/dL, hematocrit (Hct) of 66.1%, blood urea nitrogen (BUN) of 28 mg/dL, creatinine (Cr) of 1.95 mg/dL, fractional excretion of sodium (FENa) of 0.13%, hypoalbuminemia with serum albumin level of 2.6 g/dL, C-reactive protein (CRP) level of 7.7 mg/L, and procalcitonin level of 0.8 ng/ml. abdomen and pelvic CT scans revealed a normal-sized kidney with borderline splenomegaly. Doppler echocardiography revealed normal global LV systolic function, concentric LV hypertrophy, and a small amount of pericardial effusion. Because blood tests suggested polycythemia, a bone marrow biopsy was undertaken on the suspicion of reactive marrow, which revealed no abnormalities or the JAK2 gene V617F mutation. Dehydration characteristics, together with laboratory data, suggested pre-renal AKI and hypovolemic shock caused by decreased effective circulation volume. Despite huge volume resuscitation and diuretics, the patient developed severe hyperkalemia, anuria, and recurrent hypotension. Because the reason of the shock was unknown and the WBC count and CRP levels were increased, ceftriaxone was started as an empirical antibiotic. The patient complained of pain, redness, and edoema in the left lower leg on the second day of hospitalisation. Following that, an ultrasound was conducted, which ruled out deep vein thrombosis but revealed subcutaneous edoema. Ceftriaxone was changed to cefazolin because these data showed cellulitis. The laboratory results revealed an increased WBC level of $30,150 \times 10^6$ cells/L, Hgb level of 19.7 g/dL, Hct level of 59.3%, BUN/Cr level of 39/2.93 mg/dL, and decreased albumin level of 3.6 g/dL. CRP (1.1 mg/L) and cardiac markers (creatinine kinase-MB = 0.91 ng/ml, Troponin-I 0.006 ng/ml) were also within normal ranges. The FENa level was 0.1%, indicating pre-renal AKI. The anion gap metabolic acidosis in the ABGA was normal, with respiratory compensation (pH = 7.34, PaCO₂ = 24.6 mmHg, PaO₂ = 142 mmHg, HCO₃ = 12.9 mmHg, and lactic acid = 2.4 mmol/L). Kappa and lambda free light chain concentrations were 32.3 and 15.7 mg/dL, respectively, with a Kappa/lambda ratio of

Idiopathic systemic capillary leak syndrome (ISCLS) is a rare condition that is frequently misdiagnosed. However, early identification, treatment, and prophylaxis can avoid ISCLS recurrence and development of fatal complications.



2.057. The total serum IgG concentration was 1224 mg/dL, with the subclass distribution as follows: IgG1 of 909.0, IgG2 of 206.0, IgG3 of 36.5, and IgG4 of 0.4 mg/dL. After ruling out alternative causes of shock such as septic, cardiogenic, haemorrhage, and toxin, a clinical diagnosis of ISCLS was made based on recurring clinical manifestations of hypotension, hemoconcentration, and hypoalbuminemia. His symptoms significantly improved following oxygen treatment and large volume replacement with normal saline. The hemoconcentration and AKI were similarly resolved within a few days. On day 3 of hospitalisation, bambuterol 10 mg (long-acting oral 2-agonist) and theophylline 400 mg once daily were administered. He was discharged from the hospital on day 5 after being told to continue taking the same doses of oral bambuterol and theophylline. He developed a headache and flank discomfort four months after being discharged, indicating a prodrome of an acute attack of ISCLS. However, laboratory tests revealed no significant abnormalities. The patient's

bambuterol dose was increased from 10 to 15 mg, and he has been monitored for 5 years with no symptoms or recurrence of ISCLS.

Discussion:

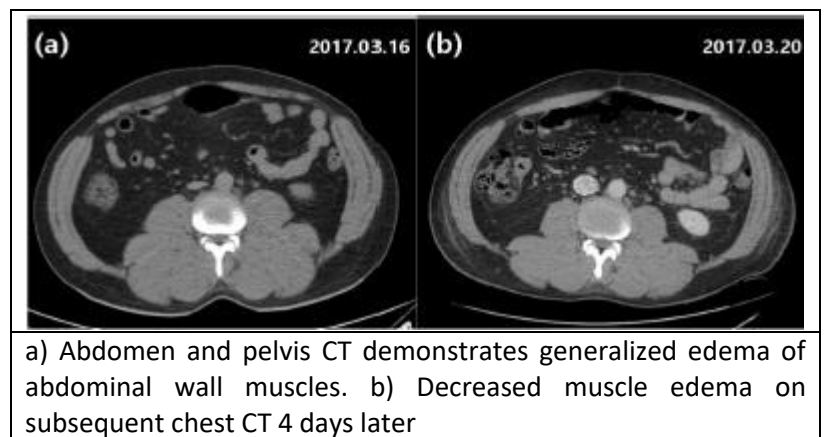
ISCLS is a rare illness characterised by frequent episodes of shock, hypoalbuminemia, and hemoconcentration. The patient encountered two identical fatal

episodes of hypovolemic shock, AKI, hypoalbuminemia, and hemoconcentration.² The past research has described a variety of problems related to ICSLS. AKI was listed as one of the most prevalent signs of capillary leak syndrome in one such report, which included a case with severe chronic ISCLS needing daily hemodialysis.³ In the current case, the patient developed AKI during each ISCLS attack. Although renal function recovered completely after the first incident, eGFR remained below 70 ml/min/m² after the second. This revealed that recurrent ISCLS episodes result in a gradual worsening of renal function, eventually leading to part-permanent impairment.²

Conclusion:

Despite an increase in instances being documented, the pathogenesis of this unusual MPA process is still unknown. This variety may be viewed as little more than a basic histological elaboration. It has a vital role in directing the course of treatment, nevertheless. Moreover, this example highlights the role played by vasculitides in the development of TIN. Physicians should be aware of uncommon vasculitis presentations since researchers demonstrated MPA's unique kidney involvement.

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