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Medi Quest BRS Hospital

A monthly News letter from BRS Hospital

AN UNUSUAL CAUSE OF UTI IN AN INFANT(URETEROCOELE) AND ITS SUCCESSFUL SURGICAL MANAGEMENT

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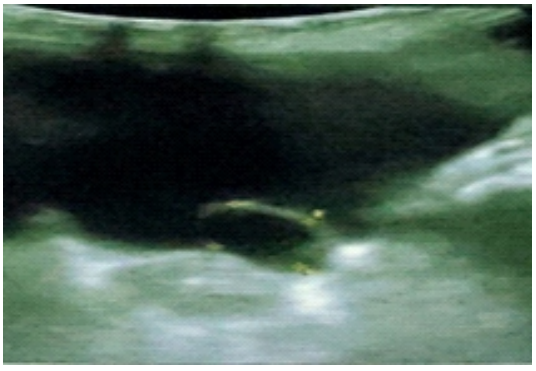
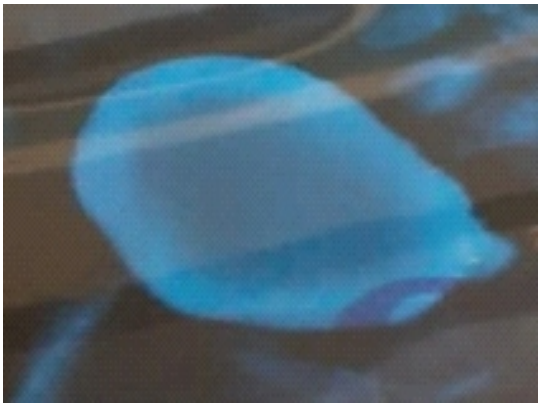
Neonatologist

Introduction : A 8 month old male infant was admitted in BRS Hospital with a culture positive UTI. Child was treated with IV antibiotics. Ultrasound abdomen showed Left hydroureteronephrosis with Left ureterocoele. Further investigations confirmed the diagnosis and we report the successful surgical management of this patient.

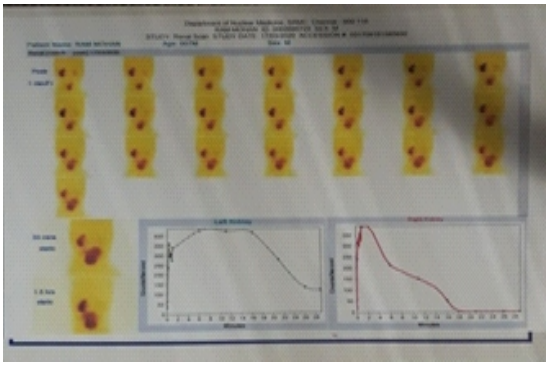
Case report: Child presented with fever and dysuria to the paediatrician and urine culture was positive E.Coli > 100000. Chikld was admitted and treated with IV antibiotics. Once symptoms subsided ultrasound KUB was done suggesting Left hydroureteronephrosis and a Intravesical Left Ureterocoele with a classical ***" Cyst within Cyst appearance"*** (**Figure1**).



MCU was done which showed no reflux and a tiny outpouching in the posterior aspect (**Figure2**).



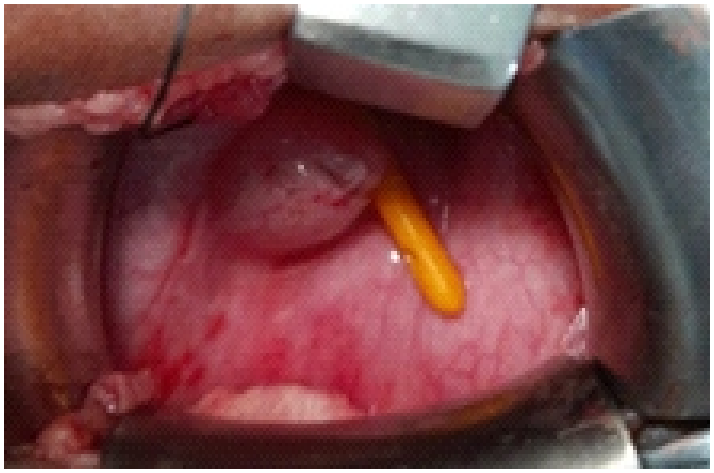
Renal radionuclide DTPA SCAN showed a enlarged left kidney with adequate function 46% with obstruction at the lower end of ureter.(**Figure 3**).



Final diagnosis was a Single system kidney with Left orthotopic Ureterocoele

causing Left hydorureteronephrosis (obstruction) . child had one more mild UTI . Discussed with parents regarding surgical Intervention as child had obstruction and UTI. Options of surgery like Cystoscopy Laparoscopy and open surgery were explained in detail with all its pros and cons and finally open surgical approach of Ureterocoele excision and left ureteric reimplantation was decided upon.

Blood investigations including renal function test ,urine routine was normal. Under general anaesthesia Pfanennsteil incision extraperitoneal approach bladder was opened (**Figure4**). Left ureterocoele seen in the photo was excised and left ureteric reimplantation done. Child was discheged on POD3



URETEROCOELE : Cystic dilatation of the intravesical segment of the distal ureter causing obstruction or reflux of the urine. Incidence is 1:5000 to 10000. More common in girls.

Embryology: 1._Delayed canalization of the Chwalla membrane(a primitive membrane separating the ureteric bud from the developing urogenital sinus) causing obstruction to the ureteric orifice.

2. Muscular defect of the distal ureter is also implicated.

CLASSIFICATION OF URETEROCOELES

RENAL COLLECTING SYSTEM –Single system

Duplex system –mostly upper moiety

LOCATION OF THE URETERIC ORIFICE – Simple or Orthotopic at the anatomic site in bladder(25%)

Ectopic 75% Outside the anatomic site

POSITION – Intravesical in the bladder

Prolapsing into bladder neck or prolapsing out from the urethral orifice

Single system ureterocoeles are usually simple as our index case

Duplex system ureterocoeles are usually ectopic and involves the upper moiety which is a non-functioning moiety

STEPHENS CLASSIFICATION

Spinchteric	Caeco or prolapsing
Stenotic	Blind
Sphincterostenotic	Non obstructing

Investigations

Ultrasound – shows a Cyst within a Cyst appearance as in our case

MCU – May show a large negative filling defect in the bladder or a outpouching indicating weak trigonal floor as in our case

CT KUB OR IVP- "Adder Head " or "Cobra Head " appearance

Complications of Ureterocoele

UTI – most common problem
Obstruction with hydroureteronephrosis
Urinary incontinence- common in girls with ectopic ureter opening beyond the bladder neck
Acute Bladder neck obstruction – by a prolapsing type
Vesico Ureteric Reflux –in Duplex system seen in 10% cases
Stone with hematuria –rare presentation

Management Goals

1. Preserve the renal function
2. Eliminate UTI/Reflux/Obstruction
3. Prophylactic antibiotics are started early to prevent UTI

Conservative treatment is done if there is no UTI/Obstruction and minimal reflux < Grade 3

SURGICAL OPTIONS

1. Cystoscopy with ureterocoele incision – incision should be done close to the base. Problem with this is it can cause Reflux in around 30% to 50% cases
2. Ureterocoele excisison and ureteric reimplantation – Open or Laparoscopic
3. Ectopic ureter - Reimplantation
4. Duplex System with dysplastic moiety – Partial nephroureterectomy usually of the upper moiety – Open or laparoscopic

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