

**CONSENSUS STATEMENT
ON THE MANAGEMENT OF THE
PRIMARY OBSTRUCTIVE MEGAURETER**

DEPARTMENT OF UROLOGY

Introduction

- ▶ 'mega'-ureter = hydroureter = megaloureter
- ▶ → a ureter with a diameter larger than normal
- ▶ 4 categories: obstructed, refluxing, refluxing with obstruction, and non-refluxing/non-obstructing
- ▶ Subdivided: primary and secondary

Definition

- ▶ Retrovesical ureteric diameter ≥ 7 mm from 30 weeks' gestation onwards.
- ▶ Cussen (1967): birth to 12 years : 5 – 6.5 mm
- ▶ Hellstrom et al (1985): 0 – 16 years: ≤ 7 mm

Postnatal management

- ▶ In the presence of hydroureteronephrosis, antibiotic prophylaxis is advisable for the first 6 – 12 months of life
- ▶ Song et al (2007) UTI rate in VUJ \geq PUJ
- ▶ Gimpel et al (2010) Antibiotic prophylaxis reduced this incidence by 83% in the first 6 months and 55% in the first year of life

Postnatal investigation

- ▶ All babies with prenatal ureteric dilatation should have a postnatal ultrasound scan
- ▶ Babies with bilateral ureteric dilatation and boys with unilateral hydroureteronephrosis should have an early MCUG to exclude bladder outlet obstruction
- ▶ An MCUG is indicated in all patients to exclude the presence of VUR
- ▶ Once BOO and VUR are excluded, a MAG-3 scan is indicated in babies with hydroureteronephrosis or isolated ureteric dilatation >10 mm to look for obstruction at the VUJ

Defining “obstruction”

- ▶ **Asymptomatic patient: DRF below 40%, or a drop in DRF of 5% on serial scans, and/or increasing dilatation on serial ultrasound scans, to be suggestive of obstruction.**
- ▶ **Delayed transit on MAG-3 in the presence of stable or improving dilatation, and a DRF above 40%, in an asymptomatic patient, were not felt to be strong indicators of obstruction.**

Initial management

- ▶ Initial conservative management
- ▶ Indications for surgical intervention:
 - ❑ failure of conservative management (breakthrough febrile UTIs, pain, worsening dilatation or deteriorating DRF on serial scans)
 - ❑ initial DRF < 40% especially when associated with massive hydroureteronephrosis

Surgical intervention

- ▶ **Babies over 1 year of age: ureteric reimplantation**
- ▶ **Babies below 1 year of age: challenging ureteric reimplantation → alternative intervention:**
 - ❑ **Temporary double-J stenting**
 - ❑ **Endoscopic balloon dilatation**
 - ❑ **Cutaneous ureterostomy**
 - ❑ **Refluxing ureteral reimplantation**

Temporary double-J stenting

- ▶ **Farrugia et al (2011):**
 - ▶ infants less than 1 year of age
 - ▶ Drainage improved in 56% of cases after stent removal.
 - ▶ Complications (stent migration, stone formation, or infection) occurred in 31%.
- ▶ **Carroll et al (2010):**
 - ▶ 31 Patients: 2 months – 18 years
 - ▶ 67% overall success rate

Cutaneous ureterostomy

- ▶ **Temporary intervention to decompression and improvement in ureteric dilatation.**
- ▶ **Complication:**
 - ▶ **Stomal stenosis: 8 – 22%**
 - ▶ **Pyelonephritis: 31%**
 - ▶ **Bilateral cutaneous ureterostomies:
Bladder defunctionalization, potential long-term loss of bladder capacity.**
- ▶ **Difficult to take care**

Refluxing ureteral reimplantation

- ▶ First described by Lee et al (2005): converting “dangerous” obstruction to the lesser evil, that is reflux.
- ▶ Kaefer et al (2012):
 - ▶ 13 patients (16 obstructed ureters).
 - ▶ All patients demonstrated improved drainage of the affected kidney following surgery.
 - ▶ Definitive surgical treatment was undertaken in 14 out of 16 ureters.
- ▶ Lack of evidence

Follow-up

- ▶ Long-term follow-up is warranted for conservatively managed megaureters as symptoms could occur later in childhood or even in adulthood.
- ▶ Shukla et al. (2005)
- ▶ Hemal et al. (2003): 55 patients with congenital megaureters
 - ▶ Renal calculi: 20 patients
 - ▶ Chronic renal failure: 5 patients

Conclusion

- ▶ **Megaureter > 7 mm**
- ▶ **Antibiotic prophylaxis for the first 6 – 12 months of life**
- ▶ **Ultrasound scan and MCUG**
- ▶ **Diuretic renogram**
- ▶ **Initial conservative management**
- ▶ **Surgical intervention: symptoms or DRF below 40% associated with massive or progressive hydronephrosis, or a drop in differential function on serial renograms**
- ▶ **Ureteral reimplantation in patients over 1 year of age**
- ▶ **A temporary JJ stent or a refluxing reimplantation in patients over 1 year of age**



Thank for your attention!