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PEDIATRIC UROLOGY

High pressure balloon dilatation of the ureterovesical junction in primary obstructive megaureter: Infectious morbidity

La morbidité infectieuse post-dilatation endoscopique rétrograde de la jonction urétérovésicale par sonde à ballonet dans le méga-uretère obstructif primitif

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KEYWORDS
Primary obstructive megaureter;
Double J stent;
Iatrogenic vesicoureteral reflux;
Febrile urinary tract infection

Summary
Introduction. — The objective of this study is to investigate the infectious morbidity associated with high-pressure balloon dilatation (HPBD) and an indwelling double J stent, in primary obstructive megaureter.
Methods. — We reviewed the cases of 12 patients undergoing endoscopic treatment for primary obstructive megaureter from January 2012 to January 2015. The characteristics of the infection and data concerning the patient and the intervention were analyzed.

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Results. — The frequency of preoperative urinary tract infection (UTI) was 58%. The procedure was feasible in 100% of cases. Two patients required a second dilatation. One patient underwent Cohen's ureteral reimplantation after failure of the second dilatation. The frequency of postoperative UTI was 25%. All these infections occurred in patients with a double J stent. None of the patients had UTI after stent removal. None of the patients developed postoperative vesicoureteral reflux (VUR) after HPBD.
Conclusion. — Endoscopic balloon dilatation has been shown to have good short- mid- and long-term outcomes. In our experience, the morbidity of this procedure mostly results from infections, exclusively related to the use of a double J stent. The placement of a double J stent has a significant medical and economic impact. A definitive decision about the utility of double J stents will require studies of further dilatation without the placement of a double J stent.
Level of evidence.— 4.

MOTS CLÉS
Mégauretère obstructif primitive ;
Sonde JJ ;
Reflux vésicourétéral iatrogène ;
Infections urinaires fébriles

Résumé
Introduction. — L'objectif de notre travail était d'étudier la morbidité infectieuse de la dilatation endoscopique de la jonction urétérovésicale associée à une pose de sonde JJ, dans le cadre du traitement du méga-uretère primitif obstructif (MUPO).
Matériel. — Les dossiers de 12 patients traités par dilatation endoscopique entre janvier 2012 et janvier 2015 ont été revus. Les caractéristiques infectieuses, des patients et de l'intervention ont été analysées.
Résultats. — Le taux de pyélonéphrites préopératoire était de 58 %. La dilatation était possible dans 100 % des cas. Une deuxième dilatation endoscopique a été nécessaire dans 2 cas. Une seule réimplantation urétérovésicale a été réalisée après échec d'une deuxième dilatation. Le taux de pyélonéphrites postopératoires était de 25 %. Toutes sont survenues sur sonde JJ. Aucune infection urinaire fébrile post-ablation de sonde JJ n'est survenue. Il n'a pas été découvert de reflux vésicourétéral postopératoire.
Conclusion. — La dilatation endoscopique est associée à de bons taux de réussite à court, moyen et long termes. La morbidité de cette technique, dans notre série, était principalement infectieuse et exclusivement liée à la sonde JJ. La pose de sonde JJ lors de cette technique a un impact médico-économique non négligeable. Des tentatives de dilatation endoscopique sans pose de sonde JJ pourrait être discutées.
Niveau de preuve.— 4.

Introduction

Primary obstructive megaureter (POM) is defined as a ureter that is congenitally dilated in all but its terminal segment, with neither reflux nor purely mechanical obstruction at the ureterovesical junction (UVJ) [1]. A large proportion of POM cases tend to improve or to resolve spontaneously without compromising renal function [2,3]. However, in some cases, megaureter may be associated with an increase in dilatation, urinary tract infection (UTI) and a deterioration of renal function necessitating surgical intervention [4]. The management of primary megaureter has changed over the last 20 years.

In the current era of minimally invasive techniques, the search for less invasive procedures for treating POM has resulted in various surgical temporizing or definitive options, including laparoscopy and endourological interventions. The development and progression of technological improvements in endoscopic techniques and instruments have also made this approach a valid option for the initial treatment of obstructive ureterovesical disease, with good results.

Endoscopic balloon dilatation has been shown to be a safe, feasible, and less invasive procedure with a good outcome, with success rates ranging from 67 to 95% [5—8].

One of the advantages of the endoscopic approach over open surgery is that the distal ureteral blood supply is left intact. There is also no violation of the bladder [9]. Furthermore, should an endoscopic approach fail, reimplant surgery can still be performed. Morbidity has been reported to range from 7% to 15% [6,9], with most morbid conditions related to the use of a double J stent. Most authors consider the stent to be beneficial as it stretches the stenotic ureteral segment during endoscopic dilatation [8]. The morbidity associated with stent use may reflect the occurrence of vesicoureteral reflux (VUR)