Case Report

Self-expanding metallic stent in the treatment of ureteral obstruction after renal transplantation

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Introduction

Ureteral obstruction is a complication arising in 1-10% of all cases of renal transplantation [1,2]. As a result of the advances in interventionist radiology and endourological techniques, it is now possible to treat this type of lesion by means of percutaneous nephrostomy followed by dilatation with an angioplasty balloon and transient insertion of a double-J pyelovesical stent [3]. The long-term results of this procedure are variable, with a success rate over periods longer than 1 year ranging from 38 to 80% [4,5].

Metallic self-expanding stents have recently been used in the management of malignant ureteral obstructions in native kidneys [6-8]. We report the use of metallic stents in the correction of ureteral obstructions after renal transplantation.

Case 1

A 32-year-old male received a cadaveric-donor renal transplant in February 1990. Seven days after the procedure a perirenal fluid collection was detected, which was demonstrated to be a urinoma by the analysis of the percutaneous tap. An ureterovesical re-anastomosis was performed, and a double-J catheter inserted. Over the following months the patient had two E. coli and one P. mirabilis urinary infection episodes. The distal tip of the double-J catheter was found to be wedged in the distal ureter; it could not be removed by cystoscopy and a new surgical intervention became necessary and was performed in May 1991. In August 1991 an obstructive uropathy was again detected. A transnephrostomic pyelography showed severe mid-ureteral obstruction which could not be corrected through balloon dilatation, and a third surgical intervention was required, involving right termino-terminal pyeloureteric anastomosis and insertion of a double-J catheter. The latter was removed by cystoscopy 10 days later. Two days after the removal of the double-J catheter obstructive uropathy again became evident. A percutaneous nephrostomy was performed and an antegrade pyelography disclosed filiform stenoses in the proximal and middle third of the ureter (Figure 1a). A Terumo hydrophilic guide wire M (Terumo Europe N.V., Leuven, Belgium) was advanced through the nephrostomy and into the bladder 1 week later. The stenoses were dilated with a 5 x 60-mm balloon, and two ‘Wallstent’ type self-expandable metallic stents (Wallstent, Schneider, Bülach, Switzerland), 40 mm long and 6 mm in diameter were then coaxially inserted. The patient at present has a serum creatinine level of 1.3 mg/dl, and there is no obstructive uropathy detectable by imaging techniques (Figure 1b). No urinary infections nor any
inserted in native ureters with neoplastic stenoses [7, 8]. There have been later reports of long-term assessment in larger numbers of patients of such stents first used a Wallstent in a case of ureteroileal stricture [6]. There have been later reports of long-term assessment in larger numbers of patients of such stents first used a Wallstent in a case of ureteroileal stricture [6].

Discussion

Other potential complications derived from the placement of the metal stent besides that of stenosis, such as dislocations, haemorrhages, or infections. None of these complications arose in the two cases reported, and neither have they been reported in the three previous communications on the use of this type of stent in native ureters [6–8]. The results in the two patients here reported, in whom protracted follow-up is available, indicate that self-expanding metal stents inserted after balloon dilatation are useful in the management of ureteral obstructions after renal transplantation. It should be kept in mind that the price is considerably greater than that double-J catheters. Good long-term results have furthermore been published with simple dilatation and temporary splinting [3, 5]. For these reasons, and at the present time, metallic stents should be indicated in this type of lesions when there is failure of the dilatation followed by temporary double-J catheter insertion, or when the risk for re-stenosis is unduly high, as was the case in the two patients here reported. Nevertheless, it should be interesting to carry out long-term studies comparing self-expanding metallic stents with temporarily placed double-J pyelovesical stents.

References

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