The management of uretero-pelvic junction (UPJ) syndrome in kidney transplantation: a retrospective trial.

Introduction and objectives:
A post-operative uretero-pelvic junction (UPJ) syndrome occurs in about 1% of renal transplants. When a diagnosis is done before kidney transplantation a corrective bench surgery should be considered. The aim of our study is to identify the optimal management of UPJ syndrome when it is clinically diagnosed after kidney transplantation.

Materials and methods:
We have retrospectively analyzed the data of the 1412 renal units transplanted from 1999 to 2010 in the Kidney Transplantation Center of Turin. Lich-Gregoir uretero-vesical anastomosis technique and a 4.8 Fr antirefluxive ureteral stent are routinely used. We have observed 13 cases of UPJ syndrome diagnosed after renal transplantation.

Results:
Uretero-pelvic junction syndrome occurred in 0.9% of renal transplanted units. Diagnosis was made in media 7.7 months (from 1 to 24 months) after kidney transplantation. In 54% of cases UPJ syndrome was diagnosed at removal of ureteral stent placed during renal transplantation. Serum creatinine was 2.68 mg/dL ± 0.6 at diagnosis and increasing in all cases. Placement of a nephrostomy tube allowed to recover graft function and to obtain a contrast study of the urinary tract in all patients. Anterograde pyelography showed 9 severe and 4 moderate obstructions. A primary percutaneous approach was chosen in 8 patients: a ureteral stent was placed in 6 cases and a balloon dilation was performed in 2. A surgical treatment was chosen at first in 5 patients and in 6 more patients after failure of percutaneous treatment. Y-V UPJ plasty was performed in 5 cases and reconstruction with upper native urinary tract in 6: 4 pyelo-ureteral, 1 pyelo-pielic and 1 calico-ureteral anastomoses.

Long-term overall success rate of percutaneous approach was 25%; 50% in case of balloon dilation and 17% in case of simple ureteral stent placement.
Surgery was successful in 92% of cases. A pyelo-ureteral anastomosis with native urinary tract was successfully performed after failure of a Y-V UPJ plasty in one patient. A persisting obstruction after pyelo-pyelic anastomosis was treated by indwelling ureteral stent in one case. Y-V UPJ plasty was successful in 80%, reconstruction with native upper urinary tract in 86%, pyelo-ureteral anastomosis in 100%.
Overall success rate of UPJ syndrome treatment with our approach was 92%. 85% of successfully treated patients underwent surgery. There was no graft or patient loss. An indwelling ureteral stent allows maintenance of normal graft function in the only patient who failed surgery.

Discussion:
Surgery obtained better results in the treatment of UPJ syndrome compared to percutaneous approach according to our data. Pyelo-ureteral anastomosis seemed especially effective and demonstrated the best success rate, followed by Y-V UPJ plasty.

Conclusion:
Surgery (Y-V UPJ plasty and pyelo-ureteral anastomosis) should be considered the treatment of choice in severe UPJ obstruction after renal transplantation. A percutaneous approach should be attempted in case of moderate obstruction.