Ureterocutaneous fistula after kidney transplantation: A case report

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ABSTRACT

INTRODUCTION: Renal replacement therapy (TRT) among the treatment modalities for chronic kidney disease is considered one of the best alternatives for managing the disease, since it improves the quality of life, survival and general long-term morbidity and mortality of patients in this context. Brazil ranks third in the world in the number of kidney transplants performed. However, kidney transplantation may have some clinical and surgical complications that need to be quickly identified, and if possible treated as soon as possible for a better patient outcome. The most prevalent urological complications after TRT involve fistulas, stenosis and reflux in the uretero-vesical anastomosis, which in strength and evidence D affect between 5 and 10% of patients submitted to different series and studies (CRANSTON D, LITTLE D. 2001). Although rarely lethal, these complications are an important cause of morbidity and have a direct correlation with chronic dysfunction and graft loss.

In numerical terms, kidney transplantation accounts for about 70% of all organ transplants in the country today. The Mário Palmério University Hospital (MPHU) in the city of Uberaba-MG performed 17 kidney transplants in January 2023 alone.

Therefore, this article aims to report a complication after a kidney transplant performed at the MPHU institution. The objective is to report a case of ureterocutaneous fistula in a patient undergoing kidney transplantation, who required a new approach with ureteral replantation. REPORT: Patient R.R.S, 35 years old, with down syndrome and chronic kidney disease, who underwent kidney transplantation on 01/30/2023, received a right kidney that had the presence of a cyst and was marsupialized in the bench surgery, ischemia time of 21 hours. The patient was implanted in the right iliac fossa using the Linch Gregoir technique, with no intraoperative complications. The patient progressed in the postoperative period with the use of vasoactive drugs for 48 hours. The patient presented diuresis in an indwelling urinary catheter only on the third postoperative day (POD). On the 16th day of the POD, it was necessary to re-approach due to the persistence of oliguria and dilatation of the ureter on control ultrasound. Intraoperatively, necrosis of the ureter implanted in the middle third was evidenced, and the pyelic-pelvic anastomosis was performed using the native ureter. The patient developed a considerable amount of diuresis in the postoperative period. On the 7th postoperative day of ureteral replantation, the patient had a higher output in a laminar tube drain than in an indwelling bladder catheter, and another approach was indicated, in which the presence of a fistula of the collecting system in the region of a previously marsupialized cyst was evidenced, and the patient was then submitted to fistula raffia and surgicel positioned. DISCUSSION: The main urological complications after kidney transplantation are: urinary obstruction, bladder fistula, urinary fistula due to ureter necrosis, and stenosis. In the case of fistulas, studies have shown that older donors may be related to the onset of this adversity, as well as increased cold ischemia time, the latter factor being present in the case described. In addition, the lack of standardization of the type of ureteral implant and the lack of studies addressing this topic allow us to question the possibility of a relationship between the type of technique chosen and the incidence of urinary fistulas. In addition, the appearance of fistula in the marsupialization of the cyst is something that has not yet been

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described in the medical literature, which demonstrates the demand for more research in the area, in order to achieve a higher degree of technical excellence for the benefit of transplant recipients.

Keywords: Urinary fistula, Kidney transplant, Urology.

INTRODUCTION

Renal replacement therapy (TRT) among the treatment modalities for chronic kidney disease is considered one of the best alternatives for managing the disease, since it improves the quality of life, survival and general long-term morbidity and mortality of patients in this context. Brazil ranks third in the world in the number of kidney transplants performed. However, this surgical procedure, like all surgical procedures, is subject to some clinical and surgical complications that need to be quickly identified and, if possible, treated as soon as possible to seek the best outcome for the patient. The most prevalent urological complications after TRT involve fistulas, stenosis and reflux in the uretero-vesical anastomosis, which in strength and evidence D affect between 5 and 10% of patients submitted to different series and studies (CRANSTON D, LITTLE D. 2001). Although rarely lethal, these complications are important causes of morbidity and have a direct correlation with chronic dysfunction and even graft loss. When talking in numerical terms, kidney transplantation accounts for about 70% of all organ transplants in the country today. Regarding the Mário Palmério University Hospital (MPHU) in the city of Uberaba-MG, 17 kidney transplants were performed in January 2023 alone, being the hospital with the highest number of transplanted kidneys in the Triângulo Mineiro region. Therefore, this article aims to report a complication, without previous reports in the literature, after a kidney transplant at the MPHU institution.

METHODOLOGY

This article is an observational and descriptive case report study. The information was collected by reviewing the medical records and photographic records of the surgical procedures to which the patient was submitted. Subsequently, a literature review was carried out, from January 2010 to January 2023 on kidney transplantation and its complications, and 4 main articles were selected for the elaboration of the current report, whose objective is to present a case of ureterocutaneous fistula in a patient undergoing kidney transplantation, in which a new approach with ureteral reimplantation was necessary.

CASE REPORT

Patient R.R.S, 35 years old, with down syndrome and chronic kidney disease, was being monitored at the kidney transplant outpatient clinic and was on the waiting list for a kidney, for a period of 2 years and underwent kidney transplantation on 01/30/2023 at MPHU. He received a right kidney from a deceased donor, who had a BOSNIAK 1 renal cyst, and it was then decided to perform marsupialization of the same in the bench surgery, with an ischemia time of 21 hours. The organ was implanted in the right iliac fossa using the Linch Gregoir technique, with no intraoperative complications, without the need for drain implantation and double J catheter. Only on the third

postoperative day (POD) did the patient present diuresis in an indwelling urinary catheter in a small amount. The patient remained hospitalized due to clinical complications due to pneumonia requiring intravenous antibiotic therapy. On the 16th postoperative day, a reapproach was indicated due to persistence of oliguria associated with ureter dilation on control ultrasound. Intraoperatively, necrosis of the ureter implanted in the middle third was observed, the pyelic-pelvic anastomosis was performed using the native ureter, and a double j catheter was placed intraoperatively. The patient developed a considerable amount of diuresis in the postoperative period. However, on the 7th postop of ureteral replantation, the flow rate in a laminar tube drain was higher than in an indwelling bladder tube, and the laboratory characteristics of the drain showed high urea and creatinine values, and a new approach was indicated, which allowed us to evidence the presence of a fistula of the collecting system in the region of a previously marsupialized cyst. The patient was then submitted to fistula raffia and positioned surgicel. No intraoperative changes in the ureteral replantation anastomosis were observed. After this last procedure, the patient evolved uneventfully, being discharged on the 8th day after the third reapproach and remains under follow-up at the urology and nephrology service of the Mário Palmério University Hospital on an outpatient basis.

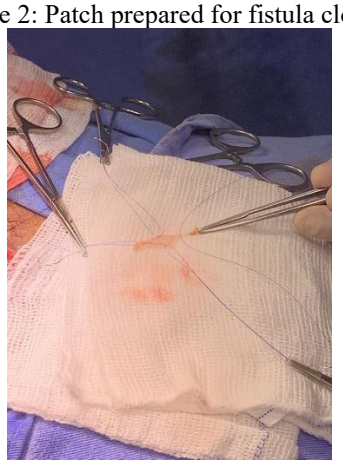
IMAGES

The following are intraoperative images at the time of fistula refusion.

Figure 1: Fistula Orifice in Cyst Marsupialization

Source: Personal Collection

Figure 2: Patch prepared for fistula closure



Source: Personal Collection

Figure 3: Patch Implant

Source: Personal Collection

CONCLUSION

The main urological complications after kidney transplantation are: urinary obstruction, bladder fistula, urinary fistula due to ureter necrosis, and stenosis. In the case of fistulas, studies have shown that older donors may be related to the onset of this adversity, as well as increased cold ischemia time, the latter factor being present in the case described. In addition, the lack of standardization of the type of ureteral implant and the lack of studies addressing this topic allow us to question the possibility of a relationship between the type of technique chosen and the incidence of urinary fistulas. In addition, the appearance of fistula in the marsupialization of the cyst is something that has not yet been described in the medical literature, which demonstrates the demand for more research in the area, to achieve a higher degree of technical excellence for the benefit of transplant recipients.

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