

Functional medicine

Successful salvage of renal allograft rupture: A case report

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ARTICLE INFO

Keywords:

Renal allograft rupture
Renal transplantation

ABSTRACT

Allograft rupture is a rare complication of renal transplantation. We present a case of renal allograft rupture which did not lead to nephrectomy.

A young woman underwent renal transplantation. On day 5 of transplantation, the patient complained of sudden pain over the transplant site and severe hemorrhage. The immediate exploration, shows allograft rupture. The rupture of allograft was repaired. The patient recovered without any complications our study revealed that, repair and salvage of renal allograft were successful and nephrectomy is not mandatory in renal allograft rupture.

Introduction

The rupture of the renal allograft is a serious complication of renal transplantation and potentially threatens patient survival; and this usually occurs within the first 2–3 weeks of transplantation. The main causes of allograft rupture include acute rejection, hypertension, acute tubular necrosis, trauma, and renal vein thrombosis.¹ In most of the cases, surgical treatment includes an urgent nephrectomy however; recently allograft salvage has been attempted. We present a case of renal allograft rupture in a young woman with the end-stage renal disease, which did not lead to nephrectomy.

Case presentation

A 25-year-old woman with the end-stage renal disease, hemodialysis dependent, underwent renal transplantation. The donor was a 25-year-old male. On preoperative evaluation, the serum creatinine (Cr) and blood urine nitrogen (BUN) was 6.7 mg/dl, and 49 mg/dl, respectively. The transplant operation was successful and after the surgery, serum Cr and BUN were improved to 4.3 mg/dl, and 30mg/dl, respectively. Immunosuppressive drugs that the patient received were myfortic, cyclosporine, and prednisone. The patient's general condition in the postoperative period was satisfactory with an appropriate renal function (Serum Cr was 1.4 mg/dl).

On day 5 of renal transplantation, the patient complained of severe pain over the transplant site which was along with severe hemorrhage; and the patient was taken to the operating room, immediately. In the examination, major and active bleeding was observed in her drain. In

the immediate surgery, a rupture with a length of 6 cm and a depth of 1 cm on the lateral side of the allograft was found (Fig. 1). The renal artery and vein were occluded using bulldog clamps, and following this bleeding was controlled and stopped. The rupture of allograft was repaired using interrupted 1-0 chromic suture and surrounding fat as a buttress (Fig. 2). The surgery was successfully performed, and re-bleeding was not observed after surgery (Hemoglobin, 9.1 g/dl). On the first postoperative day, serum Cr was 2.6 mg/dl and on the 10th postoperative day, its level reached 1.1 mg/dl. The patient recovered without any complications and was discharged with a serum Cr level of 1.1 mg/dl and BUN of 32 mg/dl.

Discussion

The incidence of renal allograft rupture is between 0.3 and 9.6%, and this usually happens during the first weeks following transplantation. The clinical symptoms usually develop with allograft rupture including pain, fever, swelling, anuria, oliguria, and haematuria²; and in our case, it was represented with pain over the transplant site and active bleeding.

Earlier study demonstrated that donor age is known as an important factor of graft and patient survival.³ The findings of the previous study showed that the 5-years graft survival rate of renal in donors aged 21–30 years old was twice than of donors aged 61–84 years old. Also, there is evidence that a donor-recipient age gradient of more than 20 years is significantly related to poor 10-years graft survival.⁴ In the present study, both the case and the donor were 25 years old that shows the importance of donor's young age and donor-recipient age match in graft survival and the possibility of these factors in successful repair and

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<https://doi.org/10.1016/j.eucr.2020.101538>

Received 18 November 2020; Received in revised form 12 December 2020; Accepted 14 December 2020

Available online 15 December 2020

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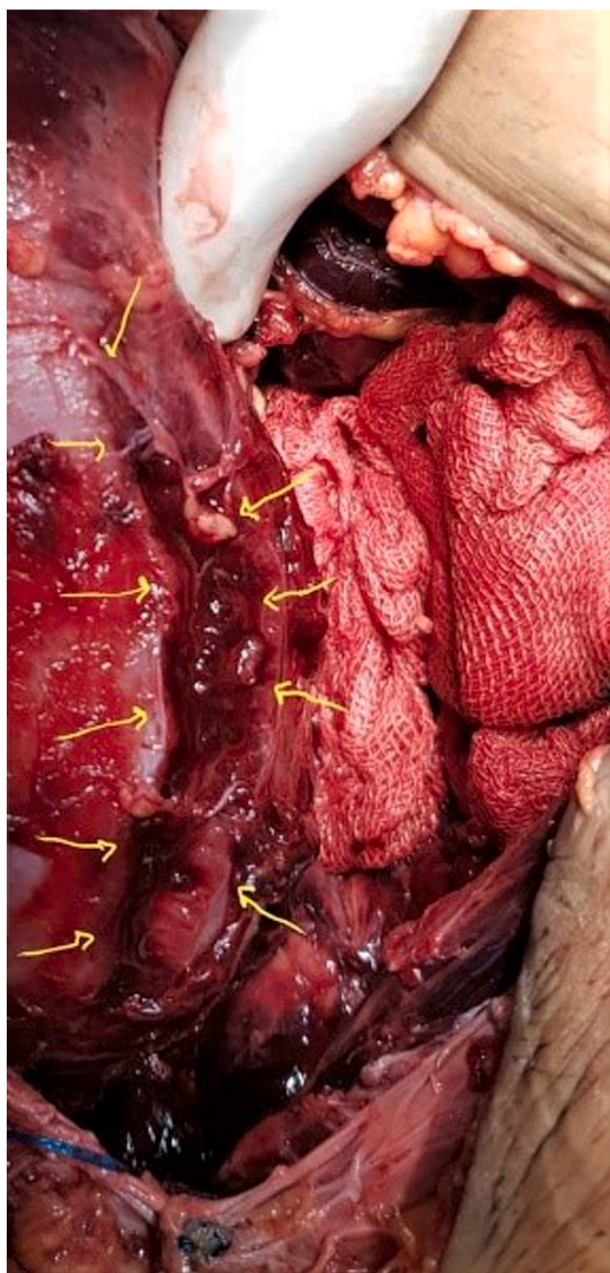


Fig. 1. Intraoperative image shows the longitudinal rupture of allograft on its lateral side.

salvage of renal allograft rupture.

In the past, the common surgical treatment to deal with the rupture of allograft was nephrectomy, but recently the graft salvage is reported with high success rates. Recently, various surgical methods have been used to repair the rupture of renal allograft.⁵ In our case, the rupture was sutured using interrupted chromic suture and surrounding fat as a



Fig. 2. The rupture site was repaired.

buttress. And the hemorrhage was controlled using bulldog clamp. The outcome of our study showed that this surgical method was successful in the repair and salvage of renal allograft.

Conclusion

In our study, the repair and salvage of renal allograft were successful; and the outcome of our study revealed that nephrectomy is not a mandatory method in renal allograft rupture. Also, the possibility of donor-recipient age match in the salvage of renal allograft rupture was observed.

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