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Urine Leak Following Kidney Transplantation: An Evidence-based Management Plan

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Abstract

Care of kidney transplant recipient remains complex and long-term graft survival isn't seen in every transplant recipient. Due to reduced supply and increased demand of human organs, more transplants are administered using marginal grafts on emergency lists. Transplant recipients have altered physiology thanks to known end-stage renal disease, recent surgery and therefore the use of potent analgesic and immunosuppressive medications. Amongst the known surgical complications, urine leak remains the most common. It can result from poor graft preparation due to excessive peri ureteric or lower pole dissection or damage to lower polar artery resulting in ischemic necrosis. In addition, poor surgical technique, bladder outflow obstruction, iatrogenic injury to bladder or pelvis may contribute to urine leak. On-going urine leak may manifest itself as swelling, pain, high drain output, sepsis, ileus and eventual graft loss. Early identification, localisation and quantification of leak remain essential in management of those patients. In addition, sepsis should be identified and treated promptly as these patients are highly susceptible to infections. Early recognition of this complication can Significantly reduce hospital stay, improve quality of life, reduce graft loss and mortality. In this article, we aim to develop an evidence-based management approach to a patient with urine leak employing a clinical scenario.

Introduction

Kidney transplantation is known to improve patient survival and reduce the cost of health care system significantly. According to renal disorder statistics for us, five years of patient survival is 85.5% vs. 35.8% in kidney transplant and dialysis-dependent population. The cost to the health care system is three times less compared to dialysis. In the UK, as per the NHSBT organ donation report for 2014, the annual cost of dialysis is £30,800. The cost of kidney transplants within the first year is £17,000 falling to £5000 pa subsequently. A kidney transplant may be a major undertaking during a physiologically compromised patient and complications in these patients have a big effect on the eventual outcomes. Urine leak remains the foremost common urological complication following kidney transplantation.

Conclusion

Urine leak after kidney transplantation presents with swelling, pain, increased drain output and worsening graft function. These patients should be kept under close monitoring, sepsis should be excluded, and Foley's catheter inserted. Drain fluid and Foley's output should be monitored. The drain fluid should be analysed for creatinine and potassium level with concomitant biochemical analysis of urine and serum. Localization of leak should be supported ultrasound, CT scan, radionuclide scan or percutaneous nephrostogram. A small leak is managed with long-term Foley's catheter, ureteric stent and radiological drainage of urinoma. Large leaks are managed with percutaneous nephrostomy, antegrade or retrograde stenting, radiological drainage of urinoma and with or without surgery.Failure of conservative management is a sign of surgery. Many options exist and depend on patient's fitness for surgery, the anatomy of leak and the length of the available ureter.

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References

1. National Institute of Diabetes and Digestive and Kidney Diseases. Kidney Disease Statistics for the United States.

2. Lempinen J, Stenman J, Kyllonen L, Salmela K (2015) Surgical Complications following 1670 consecutive adult renal transplantations: a single center study. Scand J Surg 104: 254-259.

3. Neri F, Tsivian M, Coccolini F, Bertelli R, Cavallari G, et al. (2009) Urological complications after Kidney transplantation: experience of more than 1000 transplantations. Transplant Proc 41: 1224-1226.

4. Streeter EH, Little DM, Cranston DW, Morris PJ (2002) The urological complications of renal transplantation: a series of 1535 patients. BJU Int 90: 627-634.

5. Guerrero-Ramos F, Cavero-Escribano T, Rodríguez-Antolín A, Andrés-Belmonte A, Passas-Martínez J, et al. (2017) Perigraft fluid collections after kidney transplantation: Does the type of donor (uncontrolled donation after circulatory death vs. donation after brain death) have a role? Cent European J Urol 70: 439–444.

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