

# Retained Malecot's Drain Tip after Percutaneous Drainage of Post-transplant Lymphocele: A Case Report

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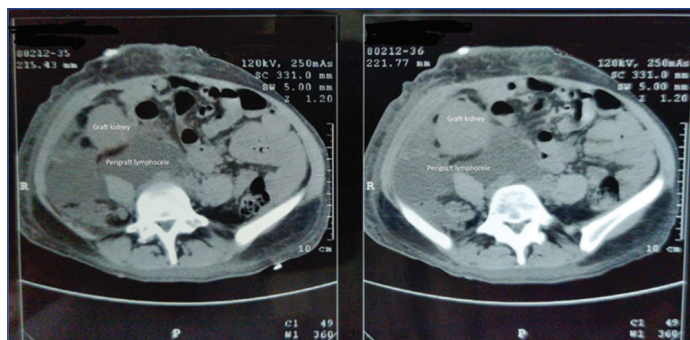
## ABSTRACT

Percutaneous drains are commonly used to drain collections in surgical patients. The choice of drain can determine the potential complications. Herein, the authors presented a case of a 32-year-old female with a drain complication and its management in a post-transplant patient. The patient developed a post-transplant perigraft lymphocele and underwent drainage using Malecot's catheter. However, during the removal of drain, the Malecot catheter accidentally broke, leaving the tip inside the perigraft region. To locate the tip, a non-contrast Computed Tomography (CT) scan was performed. Subsequently, the patient underwent a transperitoneal re-exploration, successfully removing the tip. It was discovered that the catheter tip had ingrown tissue between the prongs, impeding its removal. It is crucial to exercise caution in such situations as Malecot catheters may sometimes have ingrown tissue between the prongs, hindering their removal.

**Keywords:** Catheters, Foreign bodies, Grafting, Lymphocele, Transplantation

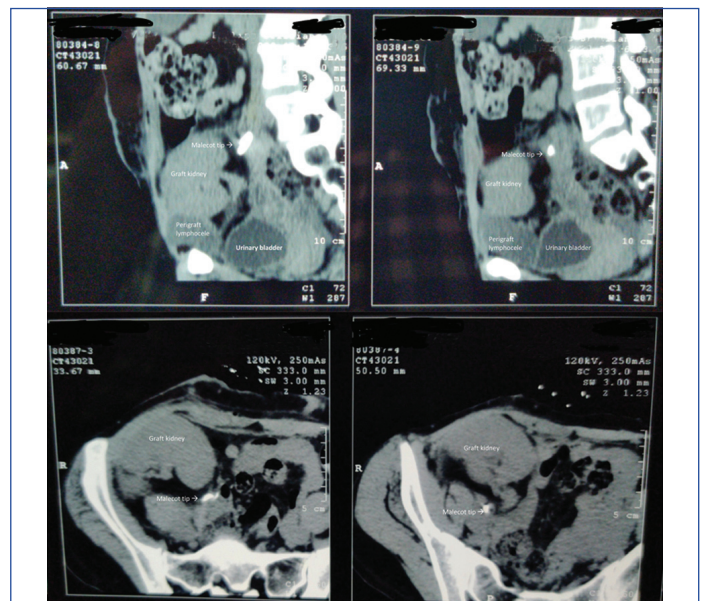
## CASE REPORT

A 32-year-old female presented to department of urology and renal transplant Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow with a two-year history of chronic kidney disease. After complete evaluation, she underwent a right iliac fossa live-related renal transplantation. The graft kidney had double renal vessels, anastomosed to the right external iliac artery, and the graft ureter was anastomosed to the bladder using 4-0 polydioxanone sutures in a modified Lich Gregoir fashion. On the seventh postoperative day, perigraft lymphocele was observed [Table/Fig-1] along with an increase in creatinine levels. Percutaneous drainage of the lymphocele was planned and a 10 Fr Malecot catheter was inserted under ultrasound guidance, followed by sclerotherapy. The lymphorrhoea decreased over the next four days. At six weeks, the drain output decreased, and the Malecot catheter was clamped. However, during removal, the catheter broke, leaving the tip in place.



**[Table/Fig-1]:** Non-contrast computed tomography scan of the patient showing the perigraft lymphocele.

A CT scan confirmed the location of the drain tip in the retroperitoneum [Table/Fig-2]. Due to the patient's immunosuppressed status, surgical re-exploration under general anaesthesia after fluoroscopic localisation of the drain tip was performed. A right paramedian incision centered over the drain tip with a transperitoneal approach was chosen to avoid dissection around the properly functioning graft kidney and to access virgin planes for dissection. The prong of the Malecot flower prong was visualised and dissection was carried out towards the tip [Table/Fig-3]. Soft tissue ingrowth between the prongs contributed to the difficulty in removing it. The lymphocele



**[Table/Fig-2]:** Non-contrast computed tomography scan after attempted removal showing resolved lymphocele with retained Malecot's tip in-situ.



**[Table/Fig-3]:** Intraoperative appearance of the catheter, being held with an artery forceps.

was not considered significant and was not marsupialised [Table/Fig-4]. The patient recovered well postoperatively.



[Table/Fig-4]: Removed Malecot's tip.

## DISCUSSION

Post-transplant lymphoceles typically present as asymptomatic perinephric collections but can cause various signs and symptoms. Only a small percentage of cases require intervention [1]. The underlying causes of lymphoceles include lymphatic injury resulting from subcapsular lymphatic rupture, diffuse oozing from the kidney surface, or retrograde lymph flow from the graft hilum to the subcapsular region due to fibrosis and subsequent obstruction of hilar lymphatics [2-5]. Treatment options range from close monitoring to interventions like aspiration, drainage, sclerotherapy, or surgical procedures. The literature describes various treatment methods for post-transplant lymphoceles. Asymptomatic and small collections without renal function impairment can be closely monitored over time. Symptomatic lymphoceles or those causing renal function impairment often require interventions such as aspiration, drainage, sclerotherapy, or surgical procedures like laparoscopic or open deroofting [1,6].

Sclerotherapy requires the insertion of a percutaneous drain, which can be achieved using either a pigtail or Malecot catheter. Malecot catheters, with prongs arranged in a flower-shaped pattern, carry a higher risk of tissue ingrowth due to the gaps between the prongs [7,8]. Pigtail catheters, though easier to remove, can be accidentally dislodged [7]. The present case report describes the surgical management of a Malecot catheter complication in a post-transplant patient, highlighting the potential for infections in immunocompromised individuals [9]. There is a lack of published literature comparing the different drainage catheters, making it challenging to provide definitive recommendations. However, it is important to be aware of the potential complications associated with all catheter types.

## CONCLUSION(S)

The utilisation of Malecot catheters for percutaneous drainage can be complicated by granulation tissue ingrowth between the prongs. The present case report is the first documented instance of such a complication in a post-transplant patient. Surgical removal remains the primary treatment approach in these cases.

## REFERENCES

- [1] Ziętek Z, Sulikowski T, Tejchman K, Sieriko J, Janeczek M, Iwan-Ziętek I, et al. Lymphocele after kidney transplantation. *Transplantation Proceedings*. 2007;39(9):2744-47.
- [2] Bzoma B, Kostro J, Slizien AD, Hellmann AR, Zadrozny D, Sledzinski Z, et al. Treatment of the lymphocele after kidney transplantation: A single-center experience. *Transplant Proc*. 2016;48:1637-40. Doi.org/10.1016/j.transproceed.2016.03.02.
- [3] Mousson C, Zanetta G, Tanter Y, Cercueil JP, Chalopin JM, Briet S, et al. Late 'spontaneous' kidney graft decapsulation with fluid collection: Lymphocele or transudate? *Nephrol Dial Transplant*. 1998;13:1288-91.
- [4] Li FK, Chu SM, Lam MF, Tam PC, Lee CK, Tang S, et al. Late onset-lymphocele after renal transplantation. *Hong Kong J Nephrol*. 2000;2(1):57-60. Doi: 10.1016/S1561-5413(09)60036-3.
- [5] Mestres J, Sebastia C, Musquera M, Pano B, Peri L, Alcaraz A, et al. Late subcapsular lymphocele in a kidney graft. *Transplantation*. 2012;93(8):e35-37. Doi: 10.1097/TP.0b013e31824cd5c4.
- [6] Zomorodi A, Buhluli A. Instillation of povidone iodine to treat lymphocele and leak of lymph after renal transplantation. *Saudi J Kidney Dis Transplant*. 2007;18(4):621-24.
- [7] Kumar P, Nayyar R. Forgotten perinephric drain anchored in the tissues: Lessons to be learned. *Journal of Endourology Case Reports*. 2017;3(1):123-25.
- [8] Garg RK, Menon P, Narasimha Rao KL, Arora S, Batra YK. Pyeloplasty for hydronephrosis: Issues of double J stent versus nephrostomy tube as drainage technique. *J Indian Assoc Pe-diatr Surg*. 2015;20:32-36.
- [9] Zimmerli W, Lew PD, Waldvogel FA. Pathogenesis of foreign body infection. Evidence for a local granulocyte defect. *J Clin Invest*. 1984;73(4):1191-200. Doi: 10.1172/JCI111305. PMID: 6323536; PMCID: PMC425133.

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