





Lithiasis in transplant kidney: what to do?

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Renal lithiasis in a harvested kidney offered for transplant is uncommon (incidence: 0.02–3.4%)^{1,2}. However, some calculi can be transferred with the graft to the recipient or can form after the transplant.

In our 30 years of experience at a kidney transplant unit, cases of lithiasis in transplant kidneys are common. Transplant patients with lithiasis may not have any pain symptoms due to the denervation of the transplanted kidney. Moreover, an increase in serum levels of creatinine may occur, which should be analyzed with caution, as there is a risk of ureteral obstruction due to the migration of the calculus.

For cases in which the diagnosis of lithiasis is associated with urinary infection, the transplant should be canceled. On the other hand, renal lithiasis does not necessarily imply the cancellation of surgery, as a postoperative follow-up can help define the best therapeutic option (clinical or surgical). Surgical removal of diagnosed calculi can be performed preoperatively, during surgery, or in the postoperative period. If the therapeutic option is “wait-and-see,” follow-up must be rigorous.

As calculi diagnosed in the perioperative period can be transferred to the transplant recipient, ultrasound is encouraged before nephrectomy. Besides the low cost, this examination enables the diagnosis and removal of the calculus

during transplant surgery, consequently diminishing possible complications, such as ureteral obstruction and infection after transplantation³.

The inclusion of imaging examinations in the examination protocol of donors of multiple organs is also important to indicate harvesting or not, and the transplant team should be made aware of the results. From the ethical standpoint, although donation is a morally good act, there should be trust between the health professional and the patient regarding fair, equitable access, informed consent, and respect to the autonomy of the will, dignity, and rights of all involved in the process to avoid the subsequent civil/penal liability of the physician⁴.

AUTHORS' CONTRIBUTIONS

PFFA: Conceptualization, Data curation, Methodology, Project administration, Validation, Visualization, Writing – original draft, Writing – review & editing. **LuFA:** Conceptualization, Methodology, Supervision, Validation, Visualization, Writing – review & editing. **RHDR:** Investigation, Project administration, Validation, Visualization, Writing – original draft. **LaFA:** Conceptualization, Data curation, Formal Analysis, Investigation, Resources, Visualization, Supervision, Writing – original draft, Writing – review & editing.

REFERENCES

1. Li X, Li B, Meng Y, Yang L, Wu G, Jing H, et al. Treatment of recurrent renal transplant lithiasis: analysis of our experience and review of the relevant literature. *BMC Nephrol*. 2020;21(1):238. <https://doi.org/10.1186/s12882-020-01896-5>
2. Mamarelis G, Vernadakis S, Moris D, Altanis N, Perdikouli M, Stravodimos K, et al. Lithiasis of the renal allograft, a rare urological complication following renal transplantation: a single-center experience of 2,045 renal transplantations. *Transplant Proc*. 2014;46(9):3203-5. <https://doi.org/10.1016/j.transproceed.2014.09.166>
3. Lu HF, Shekarriz B, Stoller ML. Donor-gifted allograft urolithiasis: early percutaneous management. *Urology*. 2002;59(1):25-7. [https://doi.org/10.1016/s0090-4295\(01\)01490-x](https://doi.org/10.1016/s0090-4295(01)01490-x)
4. Roza BA, Schirmer J. Bioethics as a tool for the practice of organ and tissue donation. *IAB Int Assoc Bioeth Newsl* 2008;(20):7-13.

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