

**Maine Medical Center
Maine Transplant Program
Policies and Procedures
Allograft Obstruction Policy, Procedure and Order Set**

Purpose

To define allograft obstruction and delineate treatment.

Background

Allograft obstruction is most commonly the result of either a stenosis of the distal ureter (due to ischemia or less commonly, polyoma virus), or compression consequent on lymphocele development. The diagnosis is suggested by the development of allograft dysfunction combined with sonographic evidence of hydronephrosis. The algorithm is based on several principles that should be understood by any physician involved in the care of these patients.

Principle 1. The care of any transplant patient and especially one with allograft dysfunction suspected related to obstruction, is multidisciplinary and requires the coordinated efforts of nephrology, transplant surgery, interventional radiology and urology.

Principle 2. The diagnosis of allograft obstruction is suggested by new or worsening hydronephrosis seen by ultrasound combined with an acute deterioration in allograft function. In general terms, there is little or no role for alternate imaging studies such as CT, MRI, Nuclear medicine or IVP in elucidating the etiology of allograft obstruction.

Principle 3. Consultation to urology requesting cystoscopy and retrograde ureterography is the initial diagnostic and therapeutic treatment of choice for allograft obstruction with AKI not due extrinsic compression by lymphocele development. Because the transplant ureter is anastomosed to the dome of the bladder and because transplant ureteric complications most commonly occur at the ureter/bladder anastomosis, Cystoscopy is not universally successful in cannulation of the ureter.

Principle 4. Because percutaneous nephrostomy is not without the potential for significant complications, all medical, immunologic and vascular causes for allograft dysfunction should be ruled out first. It should also be noted that mild hydronephrosis is a very common finding in renal transplant allografts and in and of itself is not a sign of pathology.

Principle 5. Because transplant ureteric stenosis is often related to surgical pathology and because the management of nephrostomies and ureteric stents can have a profound influence on the eventual surgical management, and because internal stents will need to be removed via a urologic or surgical procedure, all patients should have a consult to transplant surgery at the time of initial stent placement.

Principle 6. Balloon angioplasty is associated with approximately a 50% long term success rate for appropriately selected distal strictures with acceptable morbidity and should be the first consideration in therapy, realizing that there may be some anatomical strictures (recurrent strictures, very long strictures, or strictures so tight such that they cannot be crossed by a wire safely) that may not be amenable to balloon therapy.

Principle 7. After therapy, it's imperative to re-ultrasound the allograft to document resolution of hydronephrosis and to establish a new baseline, as well as to establish a baseline creatinine

Principle 8. There are many steps after the placement of a percutaneous nephrostomy if that approach is chosen, that must be completed successfully to achieve the best patient outcome.

General Guidelines to Management

a. Lymphocele

The patient will be referred to Transplant Surgery for an opinion on surgical marsupialization of the lymphocele. In the event of diagnostic uncertainty or medical problems that delay surgical intervention, percutaneous aspiration and drainage of the lymphocele may be an acceptable alternate approach to bridge the gap until surgery can safely & definitively solve the problem.

Transplant Surgery will be consulted when the problem is identified and before the patient is discharged from MMC.

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Appendix 1. Nephro: Transplant Obstruction Order Set

1. Admit patient to R5
2. NPO
3. Baseline labs: CBC, BMP, INR/PTT, Type and Screen, Urine polyoma virus PCR
4. IV line
5. Commence 0.5 NS at x rate/hour
6. Consult Transplant Surgery
7. Interventional Radiology Consult Order for transplant allograft percutaneous Nephrostomy for acute decompression of the obstructed renal allograft
8. CBC, BMP daily
9. Routine post procedure vital signs
10. Interventional Radiology Consult Order for antegrade nephrostogram (to be performed 48hrs post perc neph), opinion on percutaneous intervention of ureteric stricture if founds and placement of antegrade ureteric stent.

Appendix 2. Allograft Obstruction Algorithm

