PD41-06: Long-term outcomes of laser incision and triamcinolone injection for the management of ureteroenteric anastomotic strictures

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Disclosures

None
Introduction

- Benign ureteral stricture can occur after urinary diversion in up to 10% of cases
- Etiology of benign ureteroenteric anastomotic stricture (UEAS) is due to periureteral fibrosis and scarring
  - High tension anastomosis
  - Over-mobilization of tissues
  - Overuse of electrocautery
  - Mishandling of tissue
Background

- UEAS typically occurs within the first two years following diversion
- Patients may present symptomatically with flank pain or recurrent infections
- Asymptomatic indicators include hydronephrosis or rising creatinine
- The gold standard of treatment is open repair with reimplantation.
Objective

- Short, benign UEAS can be managed endoscopically with stenting, balloon dilation, or endoureterotomy.

- Our study describes a novel, multimodal approach to the endoscopic management of benign UEAS.
Methods - Patient selection

- Patients were treated between 2012-2019
- Required to have:
  - Stricture <2 cm
  - Biopsy confirmed absence of malignancy
  - >15% split renal function on MAG3 renal scintigraphy
Methods – Stricture management

- Holmium laser was used to make a full-thickness incision through scar tissue and into peri-ureteral and peri-ileal tissues
  - Incision extended 1cm above and 1cm below stricture
  - Laser settings – 1J, 10Hz
  - Incision continued until fat visualized

- Blunt hydrodissection of peri-ureteral tissues

- Injection of 3mL of triamcinolone acetonide (Kenalog)

- Balloon dilation to 24Fr

- Placement of solitary or parallel double J stents or upside down nephrostomy tube for 6 weeks
Methods – follow up

- All patients underwent CT abdomen and pelvis at 3 and 12 months
- Renal ultrasound at 6 and 9 months
- After the first year, renal ultrasound annually
- Success – absence of hydronephrosis
Results

- 24 UEAS were treated
- Characteristics:
  - Mean age = 70 years
  - Majority were men with unilateral, left sided stricture
  - Median follow up = 30 months
- 20/24 renal units were successfully treated (83.3%)
- All failures occurred within 3 months
  - No difference in type of diversion, age, BMI, side, or hx of radiation
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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Male % (n)</td>
<td>76.2% (16)</td>
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<tr>
<td>Age (years)</td>
<td>70.8 (60-86)</td>
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<tr>
<td>BMI (kg/m^2)</td>
<td>25.6 (18.2 – 34.7)</td>
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<tr>
<td>Unilateral % (n)</td>
<td>76.9% (10)</td>
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<tr>
<td>Left-sided % (n)</td>
<td>76.9% (10)</td>
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<tr>
<td>Diversion</td>
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<td>Ileal Conduit % (n)</td>
<td>57.1% (12)</td>
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<tr>
<td>Neobladder % (n)</td>
<td>33.3% (7)</td>
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<tr>
<td>Indiana Pouch % (n)</td>
<td>9.5% (2)</td>
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<td>History of Radiation % (n)</td>
<td>0% (0)</td>
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<td></td>
<td>Hazard Ratio (95% CI)</td>
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<tr>
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<td>-----------------------</td>
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<tr>
<td>Age</td>
<td>1.04 (0.77-1.39)</td>
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<tr>
<td>BMI</td>
<td>1.10 (0.41-2.93)</td>
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<td>Right (versus left side)</td>
<td>1.657 (0.003-1057.95)</td>
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<tr>
<td><strong>Diversion type</strong></td>
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<tr>
<td>Neobladder</td>
<td>Reference</td>
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<tr>
<td>Ileal conduit</td>
<td>79061.08*</td>
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<tr>
<td>Indiana pouch</td>
<td>1.781*</td>
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Discussion

- Endoscopic management typically consists of stents, balloon dilation, and/or endoureterotomy

- Metal stents have a 5-year patency rate of 60.7%

- Temporary stents are more successful, with only 15% of patients experiencing renal deterioration, but require multiple repeated procedures

- Balloon dilation alone has extremely limited value, with a 5-year success rate around 5%
Discussion

- Holmium:YAG laser can be utilized for stricture incision and is beneficial for the simultaneous cutting and ablative properties.

- Stricture incision should always include 1cm of normal tissue on either side of the stricture and be full thickness.

- Recurrent strictures are typically due to re-fibrosis.

- The use of triamcinolone has been described once previously for ureteral strictures, and more commonly for urethral strictures.
  - Reduces the rate of collagen synthesis in fibroblasts during wound healing.
Conclusion

- In carefully selected patients, such as those with short stricture length (<2cm) and good renal function, trimodal endoscopic therapy of UEAS is an effective management technique.

- Our long term success rate is 83.3%.

- Therapy should include:
  - Aggressive, full-thickness laser incision
  - Triamcinolone injection into peri-ureteral tissues
  - Balloon dilation
Thank you

Questions/comments?

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References


References continued


