UAB Trauma Guideline for Intervention in Renal Artery Trauma with Stenting

1. Introduction Renal artery trauma, often resulting from blunt or penetrating injuries, can lead to various complications, including ischemia, infarction, and renovascular hypertension. The management approach should consider hemodynamic stability, extent of arterial injury, and associated organ damage.

2. Classification of Renal Artery Injuries

- **Avulsion of Renal Hilum (AAST Grade V)**
- **Segmental Renal Artery Dissection (AAST Grade IV)**
- **Preocclusive Main Renal Artery Dissection**
- **Thrombogenic Renal Artery Intimal Tear**

3. Indications for Endovascular Stenting

A. General Considerations:

- Hemodynamically stable or stabilized patients.
- Presence of residual flow with preserved parenchymal perfusion → Therapeutic window may extend beyond 4 hours post-trauma if residual flow exists.

B. Specific Scenarios:

1. **Flow-Limiting Main Renal Artery Dissection:**
    - Stenting recommended if diagnosed within 4 hours post-trauma.
    - Beyond 4 hours, consider if residual flow and parenchymal perfusion are present.
    - Antiplatelet therapy post-stenting, contingent on bleeding risk.
2. **Preocclusive Main Renal Artery Dissection:**
    - Endovascular stenting preferred
    - Attempt revascularization even beyond 12 hours if partial flow persists.
3. **Thrombogenic Intimal Tear:**
    - Stenting indicated to prevent distal embolization.
    - Dual antiplatelet therapy recommended post-procedure.
4. **Segmental Renal Artery Dissection:**
    - Stenting generally not indicated.
    - Embolization preferred if active bleeding or pseudoaneurysm is present.

4. Contraindications to Stenting

- Hemodynamic instability requiring immediate surgical intervention.
- Complete renal artery avulsion.
- Extensive associated injuries precluding endovascular access.

5. Post-Procedure Management

- Dual antiplatelet therapy for 1 month, followed by single-agent therapy for at least 3 months.
- Regular follow-up with Doppler ultrasound or CT angiography to assess stent patency.
- Monitor for hypertension and renal function deterioration.

References

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