Surveillance Imaging Associated with Delayed Splenectomy in High-Grade Blunt Splenic Trauma

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Introduction

- There is limited data regarding the need for surveillance CT imaging for blunt splenic injury (BSI), which may result in unnecessary radiation exposure for patients.
- We sought to determine whether repeat CT had an impact on clinical decision making for BSI

Methods

- Retrospective chart review was conducted of all patients with BSI identified on CT scan admitted to a Level I trauma center (2016-2021).
- Primary outcome was need for intervention after subsequent imaging (defined as angioembolization and/or splenectomy) by high or low-grade injury.

Results

- Low-grade group (n = 223):
  - Grade II = 129
  - Grade III = 94
- High grade group (n = 177):
  - Grade IV = 167
  - Grade V = 10
- Median time to repeat CT was 2 days from admission (IQR 2-3)
- 78 patients (20%) underwent intervention after repeat CT:
  - Low grade group: 38 patients (17%)
  - High grade group: 39 patients (22.2%)
- No difference in likelihood of any intervention by injury grade
- Individuals in high-grade group were 3.6 times more likely to undergo delayed splenectomy than those in the low-grade group (p=0.006)

Results

- New vascular lesion on repeat CT was identified in 62% of individuals who underwent delayed intervention
- These individuals had a 23 times higher odds of intervention than those without a new lesion ($p<0.001$)

Conclusions

- Delayed intervention after surveillance imaging in BSI is driven mostly by the identification of new vascular lesions and leads to greater rates of splenectomy in high versus low-grade injuries.
- Surveillance imaging should be considered for all AAST injury grades II or higher.