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# The Use of Intra-Arterial Vancomycin in Splenic Artery Embolization to Decrease Post-Procedural Infections

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Purpose:

To determine efficacy of vancomycin administration into the splenic artery immediately prior to embolization in decreasing the rate of post-procedural splenic abscess formation.

Materials:

After obtaining IRB approval, we retrospectively analyzed data of 69 patients who underwent splenic artery embolization between July 2014 and January 2018. Patients were subdivided into categories based on antibiotics: vancomycin, other and none. Other antibiotics included ciprofloxacin, ampicillin-sulbactam, cefazolin, Piperacillin / Tazobactam, Sulfamethoxazole / Trimethoprim, and ceftriaxone. Using a chi-square test, we compared the three groups in terms of rate of splenic abscess formation. We also compared abscess formation based on embolic agent (particulate agent or non-particulate agent), level of embolization (distal or non-distal), and indication (trauma, pre-splenectomy, splenic steal s/p transplant, pseudoaneurysm, portal hypertension, hypersplenism and celiac/ splenic artery dissection). Those that received follow-up care within 30-60 days after the procedure were also characterized based on change in platelet level.

Results:

There was a significant association between antibiotic type and abscess formation,  $p=0.04$ . Patients receiving vancomycin did not form abscesses (0/13). 15.8% (3/19) of patients receiving other antibiotics formed abscesses. Patients that did not receive also did not form abscesses (0/34). There was no significant difference between types of embolic agent, levels of embolization, and indications. There was no significant difference among the antibiotic groups in the change in platelet count from pre to post procedure.

**Conclusions:**

While we did not find a significant difference between indication and rate of abscess formation, it is recommended by the Society of Interventional Radiology to provide antibiotic prophylaxis for solid organ embolization if infarction is expected. Our results suggest that when utilizing antibiotics during SAE, intraarterial vancomycin immediately injected into the spleen prior to embolization can significantly reduce the rate of abscess formation.

**Abstract Categories:**

Arterial Interventions: Embolization

**Keywords:**

Practice guidelines

Prophylactic Antibiotics

Splenic Artery Embolization (SAE)