

## Supplementary Online Content

Brett AS, Azizzadeh N, Miller EM, Collins RJ, Seegars MB, Marcus MA. Assessment of clinical conditions associated with splenic infarction in adult patients. *JAMA Intern Med*. Published online July 13, 2020. doi:10.1001/jamainternmed.2020.2168

### **eMethods.** Detailed Methods

This supplementary material has been provided by the authors to give readers additional information about their work.

## eMethods

This retrospective study was conducted at two hospitals – Palmetto Health Richland and Palmetto Health Baptist – within a healthcare system in Columbia, South Carolina. Richland is a 650-bed teaching hospital and level 1 trauma center; Baptist is a 350-bed community hospital. The records of these hospitals are available in a single electronic medical record. The study was approved by the Palmetto Health institutional review board. The Palmetto Health system was renamed “Prisma” in 2019. There was no funding for this study.

We queried the picture archiving and communication system (PACS) of the radiology department for cases of adults (age  $\geq 18$ ) with splenic infarction noted on CT scan reports between January 1, 2010 and January 1, 2015, using search words “splenic” or “spleen” and “infarct” or “infarction.” Manual review of radiology reports yielded 232 cases in which splenic infarction was considered possible or definite. We reviewed the electronic medical record corresponding to each case; reviewers were 2 clinically active board-certified general internists (authors AB and NA) with 40 and 1 years of practice experience, respectively, and 3 third-year internal medicine residents (authors RC, EM, and MS). Abstracted clinical information was entered on standard data forms. We supplemented that information with additional review of records from dates preceding or subsequent to the index encounter (through 2018), if necessary to gain additional relevant information. Outpatient cases for which the medical record had inadequate clinical information were excluded (n=14).

Through iterative discussion of the clinical characteristics of these cases, two authors (AB and NA) developed a preliminary classification scheme for clinical conditions associated with splenic

infarction. The same two authors then performed a second direct review of the medical record for each case and refined the classification scheme, with 11 major categories and several subcategories (total of 17 discrete categories); one or more categories were assigned for each case. Next, a general radiologist (author MM) with 15 years of post-training experience reviewed all images. The criterion for recent splenic infarction was presence of one or more hypoenhancing peripheral wedge-shaped regions. The radiologist excluded 55 cases in which he considered recent splenic infarction to be unlikely because the images suggested old infarction (n=21), a more likely alternative explanation for a splenic abnormality (n=21), or a perfusion artefact (n=13). For cases with persistent uncertainty about whether the splenic abnormality represented infarction or an alternative abnormality, the radiologist and senior author (AB) discussed the clinical case and imaging findings, and reached consensus. Overall, 69 cases were excluded for the aforementioned reasons, leaving 163 cases.

In our previous clinical experience, we had cared for several patients in whom the only plausible predisposing factor was atherosclerosis involving the celiac or splenic arteries. Hence the study radiologist also classified each abdominal CT scan as showing (a) no abdominal atherosclerosis, (b) atherosclerosis involving the aorta or abdominal arteries other than the celiac or splenic arteries, or (c) atherosclerosis involving the celiac or splenic arteries (defined by the presence of calcific or noncalcific plaque).