TYPE 1: WHITE

- VASODILATION WITH HYPEREMIA ACUTE IBD
- INJURY TO INTRAMURAL VESSELS CONTRAST LEAK: SHOCK BOWEL, RE-PERFUSION AFTER ISCHEMIA
- HEMORRHAGE
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- INJURY TO INTRAMURAL VESSELS
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ARTERIAL INSUFFICIENCY
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ARTERIAL INSUFFICIENCY WITHOUT REPERFUSION
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TYPE 2: GRAY

- HOMOGENEOUS ENHANCEMENT
  ~SK MUSCLE
- CHRONIC CROHN’S DISEASE
- ISCHEMIA
- NEOPLASM
ARTERIAL INSUFFICIENCY
WITHOUT REPERFUSION
TYPE 3: TARGET-WATER

- MOST COMMON PATTERN
- IBD
- INFECTION
- ISCHEMIA
- RADIATION
ISCHEMIA
INFARCTION
Mesenteric ischemia is a complex, multifaceted condition. It involves the state of the systemic circulation, the degree of functional or anatomic vascular compromise, and the number and caliber of vessels affected.
MESENTERIC ISCHEMIA

- Response of the vascular bed to diminished perfusion
- Nature and capacity of the collateral circulation
- Duration of the ischemic insult
- Metabolic requirements of the involved segment of gut
ACUTE MESENTERIC ISCHEMIA

- Superior mesenteric artery embolism (SMAE)
- Nonocclusive mesenteric ischemia (NOMI)
- Superior mesenteric artery thrombosis (SMAT)
- Superior mesenteric vein thrombosis (SMVT)
ACUTE MESENTERIC ISCHEMIA

- SMA embolism (50%)
- NOMI (20-30%)
- SMA thrombosis (15-25%)
- SMV thrombosis (5%)
<table>
<thead>
<tr>
<th>Pathologic Damage</th>
<th>MDCT Findings</th>
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<tbody>
<tr>
<td>Vasodilation</td>
<td>Mural Hyperdensity</td>
</tr>
<tr>
<td>Vasoconstriction</td>
<td>Absent or ↓ Mural Enhancement</td>
</tr>
<tr>
<td>↑ Mural Permeability</td>
<td>Mural Thickening Bowel Distention</td>
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<tr>
<td>Mucosal Cellular Necrosis</td>
<td>Pneumatosis</td>
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<tr>
<td>Transmural Necrosis</td>
<td>Port-Mes Vein Gas</td>
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<tr>
<td></td>
<td>Pneumoperitoneum</td>
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<tr>
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<td>Pneumoretroperitoneum</td>
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</tbody>
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The wide caliber and narrow take off angle of the SMA off the aorta make it particularly vulnerable to embolic events. The offending emboli usually originate from a left atrial or ventricular mural thrombus or vegetations on a heart valve.
- Nearly one half of patients with SMAE will have synchronous extramesenteric emboli including peripheral artery emboli and 20% have synchronous emboli to the spleen, kidneys or other organs.
Nearly one half of patients with SMAE will have synchronous extramesenteric emboli including peripheral artery emboli and 20% have synchronous emboli to the spleen, kidneys or other organs.
SAME: CLINICAL FEATURES

- Sudden onset of severe periumbilical or right umbilical fossa abdominal pain.
- Severe pain is usually out of proportion to an often innocent physical examination which may reveal a soft abdomen with some tenderness on palpation.
- Nausea, vomiting, or diarrhea may occur.
- Query patient about cardiac disease such as previous myocardial infarction, arrythmias, cardiac valve disease, and previous arterial and venous embolism.
IMPAIRED VENOUS DRAINAGE
IMPAIRED VENOUS DRAINAGE
IMPAIRED VENOUS DRAINAGE WITH REPERFUSION
IMPAIRED VENOUS DRAINAGE WITH INFARCTION
ISCHEMIC COLITIS

- LOW FLOW: CHF, HYPOVOLEMIA 80%
- ARTERIAL THROMBUS OR EMB 10%
- VENOUS THROMBOSIS 5%
- VASCULITIS (SLE) 5%
ISCHEMIC COLITIS

- PAIN OUT OF PROPORTION TO PHYSICAL EXAM, BLOODY DIARRHEA, NAUSEA, VOMITING
- ELDERLY: LEFT SIDED INVOLVEMENT DUE TO HYPOVOLEMIA
- YOUNG: RIGHT SIDED INVOLVEMENT DUE TO HEMORRHAGIC SHOCK OR TRAUMA (POOR COLLATERAL BLOOD FLOW, INCONSISTENT MARGINAL ARTERY OF RT COLON)
TYPE 5- PNEUMATOSIS

- ISCHEMIA
- INFECTION
- TRAUMA
- BENIGN CAUSES
  CONNECTIVE TISSUE
  IBD
  OBSTRUCTION
  COPD