Duodenal Invasion from Pancreatic Adenocarcinoma

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Clinical History:

- 58-year-old man with recently diagnosed pancreatic head adenocarcinoma, metal common bile duct stent placement, and initiation of chemotherapy
- Presents with several days of lightheadedness, coffee-ground hematemesis, and melena, found to be hypotensive and tachycardic
- Urgent EGD after resuscitation showed overt bleeding and clot from infiltrative, friable, ulcerated duodenal mucosa of the second portion, felt to be secondary to malignant invasion from known pancreatic malignancy
- Urgent CT angiogram for IR embolization planning was obtained
Endoscopic images show clot (arrow) and bright red blood (arrowheads) overlying friable, ulcerated duodenal mucosa just distal to the duodenal bulb.
Axial unenhanced, arterial phase, and venous phase CT images through the upper abdomen obtained after EGD. Irregular, luminal hyperattenuation (arrow) within the duodenum that was not present on unenhanced image becomes more dense and larger in volume on venous phase (arrowheads), representing active contrast extravasation.
Digital subtraction angiogram images show selective superior mesenteric artery injection with active extravasation from a mid-SMA branch within the region of the duodenum (arrows). Gelfoam and coil embolization were performed after which completion angiography showed no continued extravasation (arrowhead).
Teaching Points:

✓ Primary and secondary malignant bowel ulceration can lead to overt upper GI bleeding
✓ CT angiography can identify the site of active upper GI hemorrhage and guide interventional angiography, when blood obscures the source on EGD or the cause is not treatable endoscopically
✓ Active hemorrhage can appear as new, luminal hyperattenuation similar to blood pool on arterial phase images that was no present on unenhanced images, with expansion of size and shape of luminal hyperattenuation on venous and delayed phase images
References

