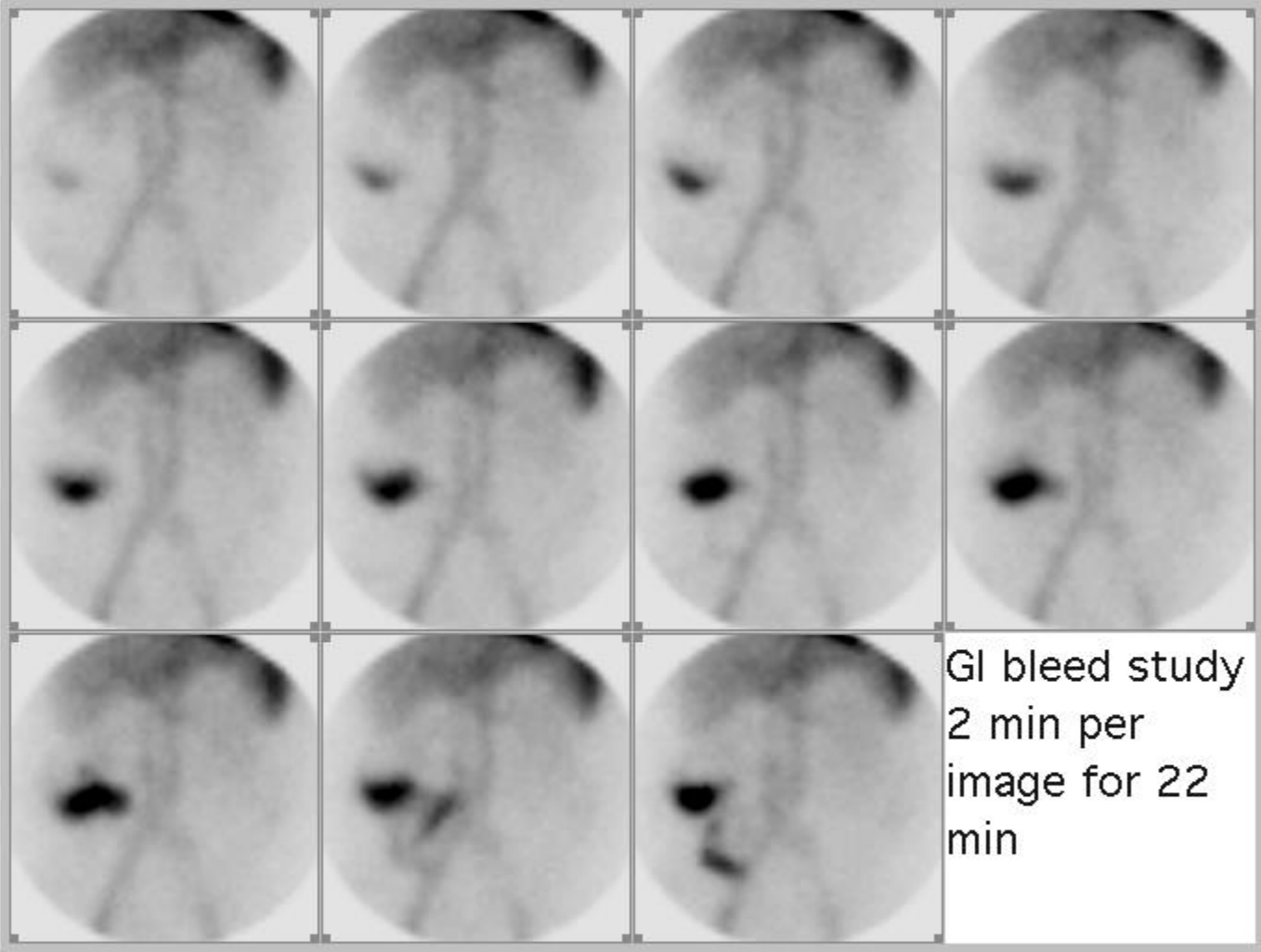
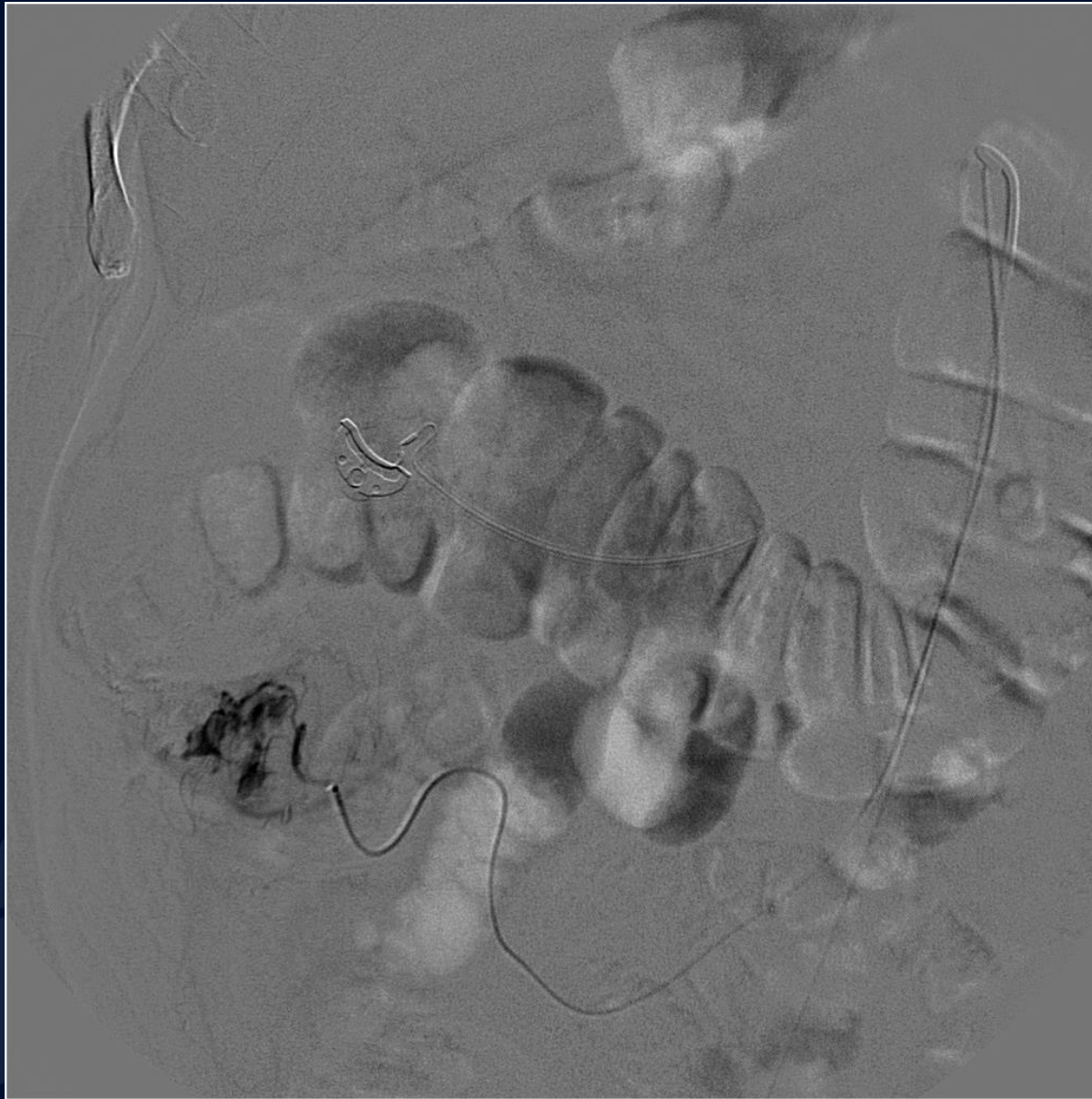


A 79-year-old male presented to the emergency department with bright red blood per rectum and altered mental status. He received two units of packed red blood cells (RBC) and was sent for a nuclear medicine-tagged red blood cell study for further evaluation.

Elena G. Violari M.D.



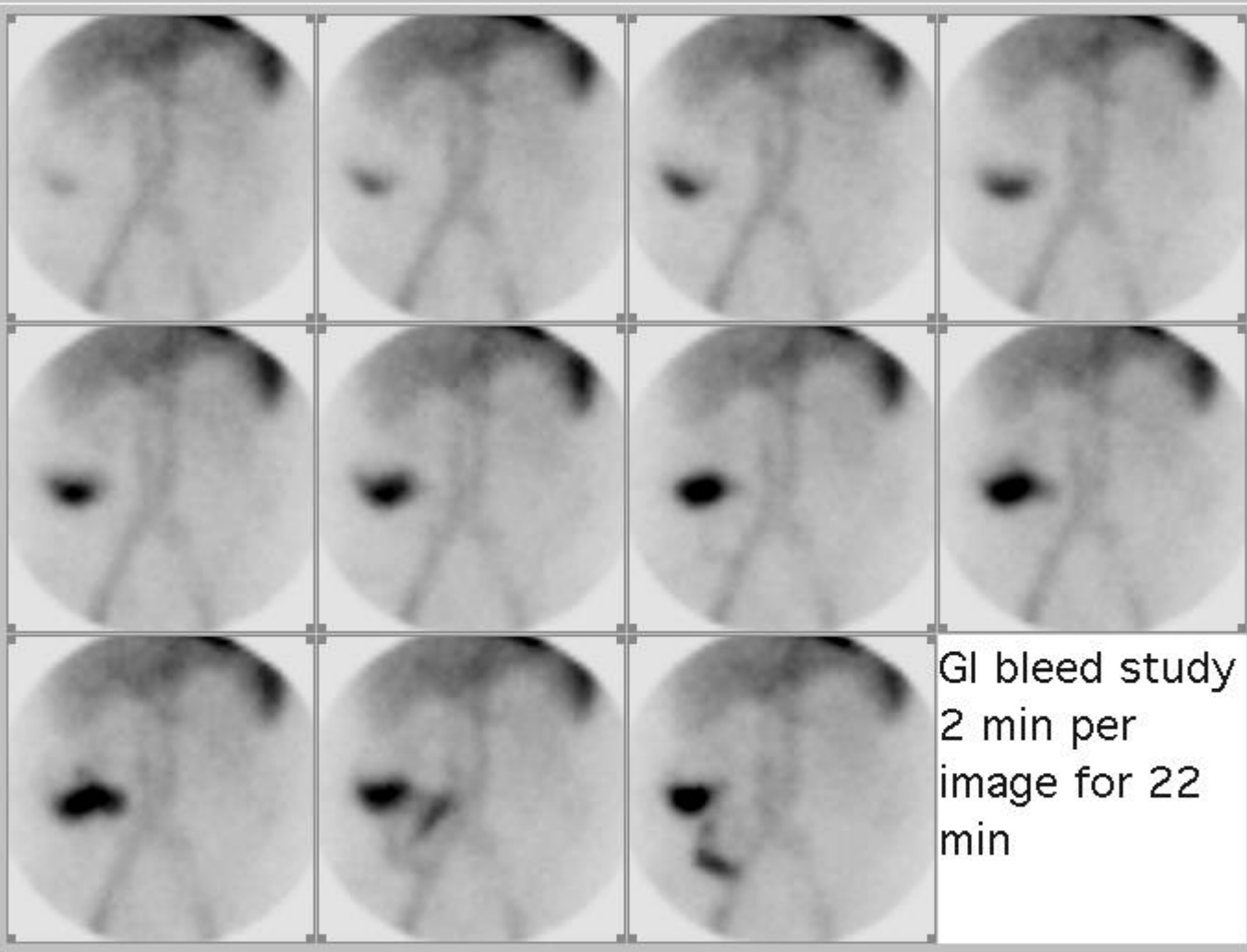
GI bleed study  
2 min per  
image for 22  
min



A large, stylized oak leaf graphic in a dark blue color, positioned on the left side of the slide. It features detailed vein patterns and a lobed edge.

?

# Colonic Hemorrhage



Tagged RBC scan

**The tagged RBC study demonstrated uptake with migration in the expected region of the CECUM. The patient was then referred urgently for mesenteric angiography.**

# EMBOLIZATION SMA BRANCH



**UCONN**  
**HEALTH**

RADIOLOGY



# Lower GI bleeding

## Epidemiology:

- Predominates in the elderly

## Etiology:

- Diverticular disease.
- Angiodysplasia.
- Neoplasia

## Clinical presentation:

- Most bleeding stops spontaneously; the vast majority of affected patients are managed conservatively and do not receive diagnostic imaging.
- Those with severe hemorrhage are usually referred to the radiology department for bleeding localization and management.

# Lower GI bleeding

## Nuclear Medicine Study:

- Severe, life-threatening recalcitrant bleeding with hemodynamic stability in between episodes of hemorrhage are best evaluated using Tc-99M RBC scanning.
- Inconsistent nature of bleeding in this group makes nuclear studies useful prior to angiography. Nuclear medicine scanning is advantageous for intermittent bleeding because imaging is performed continuously during a 1- to 2-hour period.
- When positive, nuclear studies facilitate targeted angiography that should be performed as soon as possible.
- Some patients with particularly severe bleeding are best served by urgent angiography.

## Multidetector CT angiography:

- Positive contrast-enhanced multidetector CT can define with a high degree of accuracy the location and at times the cause of active GI bleeding.

# Lower GI bleeding

## Vasopressin infusion:

- Labor intensive. requiring an intensive care unit admission.
- Fails in more than 20% of patients and re-bleeding occurs in more than 15% of patients.
- Significant side effects including abdominal pain.
- Contraindicated in patients with significant coronary artery disease.

## Superselective embolization:

- Immediate cessation of bleeding without the need for prolonged infusions.
- Micro-coils fulfill the objective of reducing perfusion pressure while maintaining collateral flow.
- Polyvinyl alcohol are preferred for angiodysplasia cases. (> 250 microns to avoid end organ ischemia).
- Embolization is attempted only if a microcatheter can be advanced to the border of the colon and embolic material are placed as distally as possible.
- Should be performed until arterial extravasation is arrested.

# Lower GI bleeding

## Endoscopy:

- Embolization and endoscopy are complementary; All patients who undergo angio should also receive colonoscopy.
- Aggressive bowel preparation 6-12 hrs prior to endoscopy (pts with severe bleeding may not tolerate)
- Colonoscopy may identify abnormalities in patients who are not actively bleeding (clot or mass).
- **Patients with severe active bleeding should be triaged with angiography with the intent to perform embolization, whereas patients with less severe bleeding should undergo aggressive bowel preparation for endoscopy.**

# Lower GI bleeding

## Complications:

- Bleeding from the right colon and cecum tends to be less responsive to embolotherapy compared with bleeding in the left colon ( Preponderance of angiodysplasia in the right colon may be responsible).
- Angiodysplasia appears to be less responsive to embolization compared with diverticular hemorrhage, and angiodysplastic lesions have a propensity to rebleed.
- Patients with multifocal disorders such as extensive diverticulosis are at increased risk for bleeding from other affected sites.
- 5% risk of ischemia in nearly all published studies with superselective embolization.

# References

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