



CIRA Case of the Day

June 2015

Case Courtesy of Drs. Sibtain Raza and
Robert F. Berry
Dalhousie University

HISTORY

- 75 male; with hematemesis, vomiting up bright red blood
- Known hypertensive, h/o of chronic back pain, anxiety and depression
- Few week h/o heavy NSAID intake, severe nausea and retching
- Hemodynamically stable

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- Upper GI scope: active bleeding from the distal esophagus; could not be controlled
 - Duodenal ulcer which was not bleeding at all
 - Mallory Weiss tear was suspected
 - Hgb dropped from 165 to 113 in 12 hours despite transfusions
 - IR CONSULT

NEXT STEP ??????

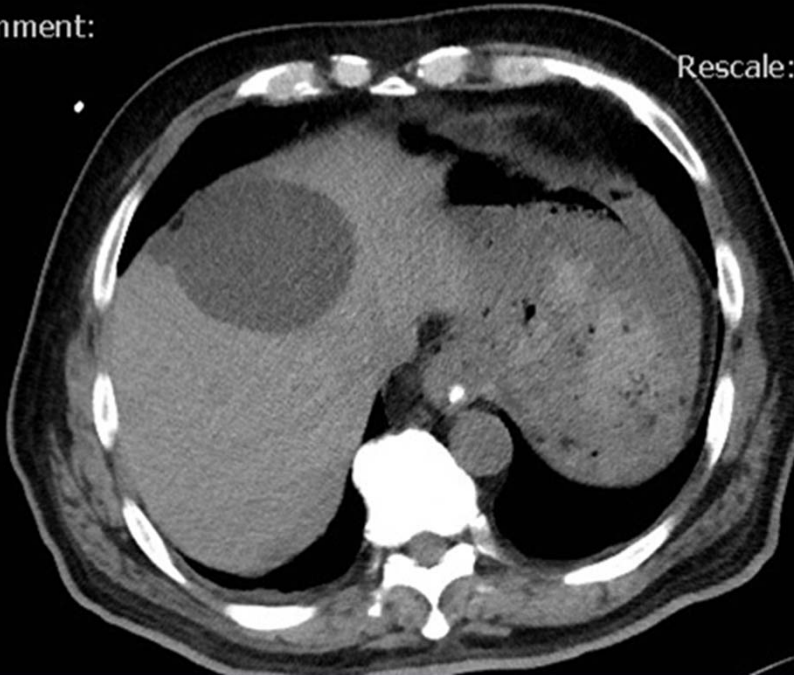
- Catheter Angiography ?
- CT Angiography ?

CT ANGIOGRAPHY

Comment:

Rescale:-

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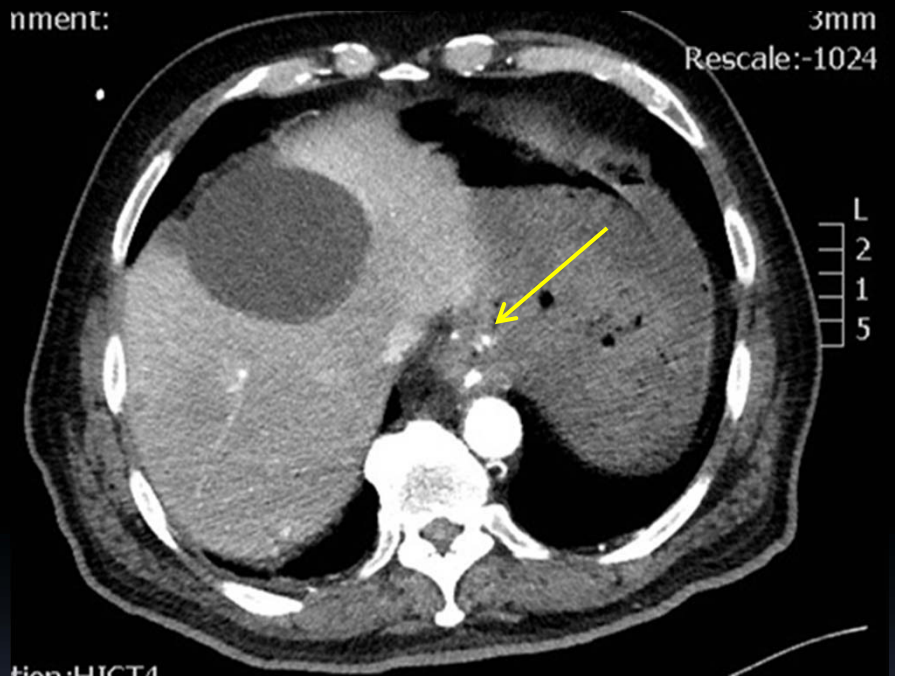


Comment:

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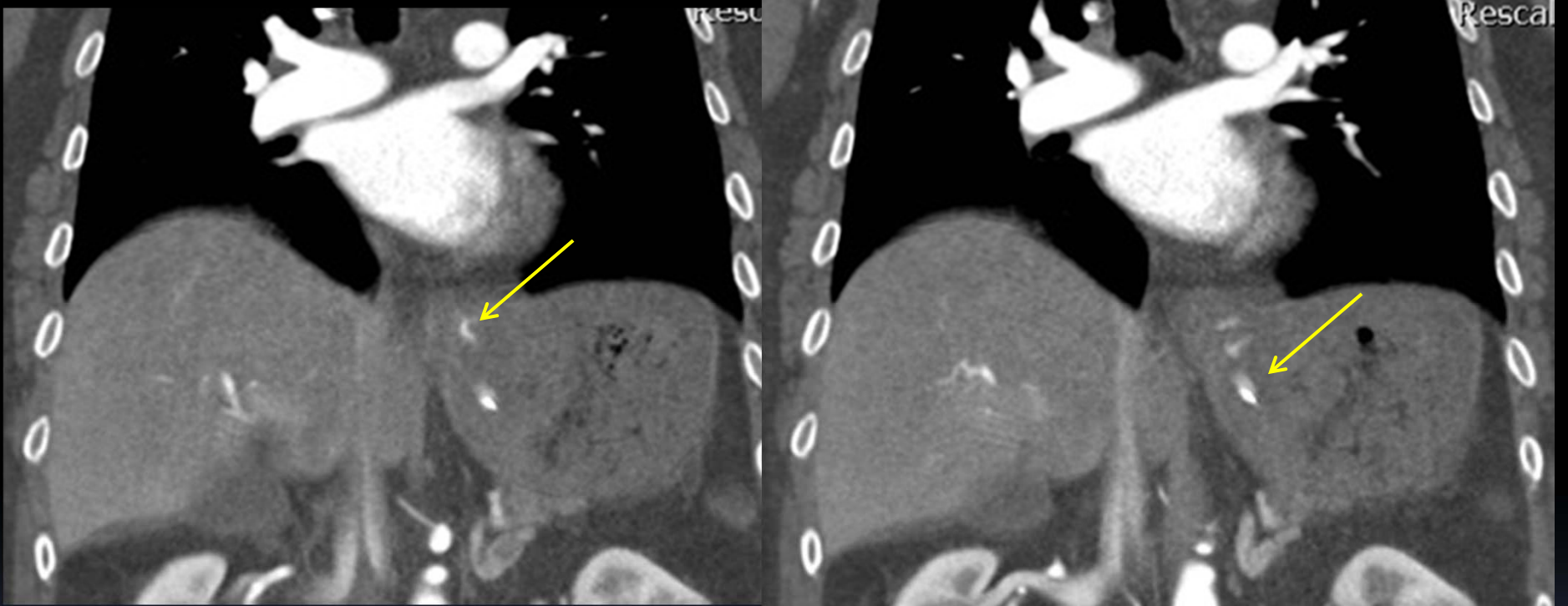
Rescale:-1024

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2
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5



Unenhanced and arterial phase axial CT images at the level of GE junction.
Enhanced images show extravasation of contrast (arrow)

CT ANGIOGRAPHY



Arterial phase coronal CT images show extravasation of contrast (arrow)

Mag:1.385

CATHETER ANGIOGRAPHY

RT



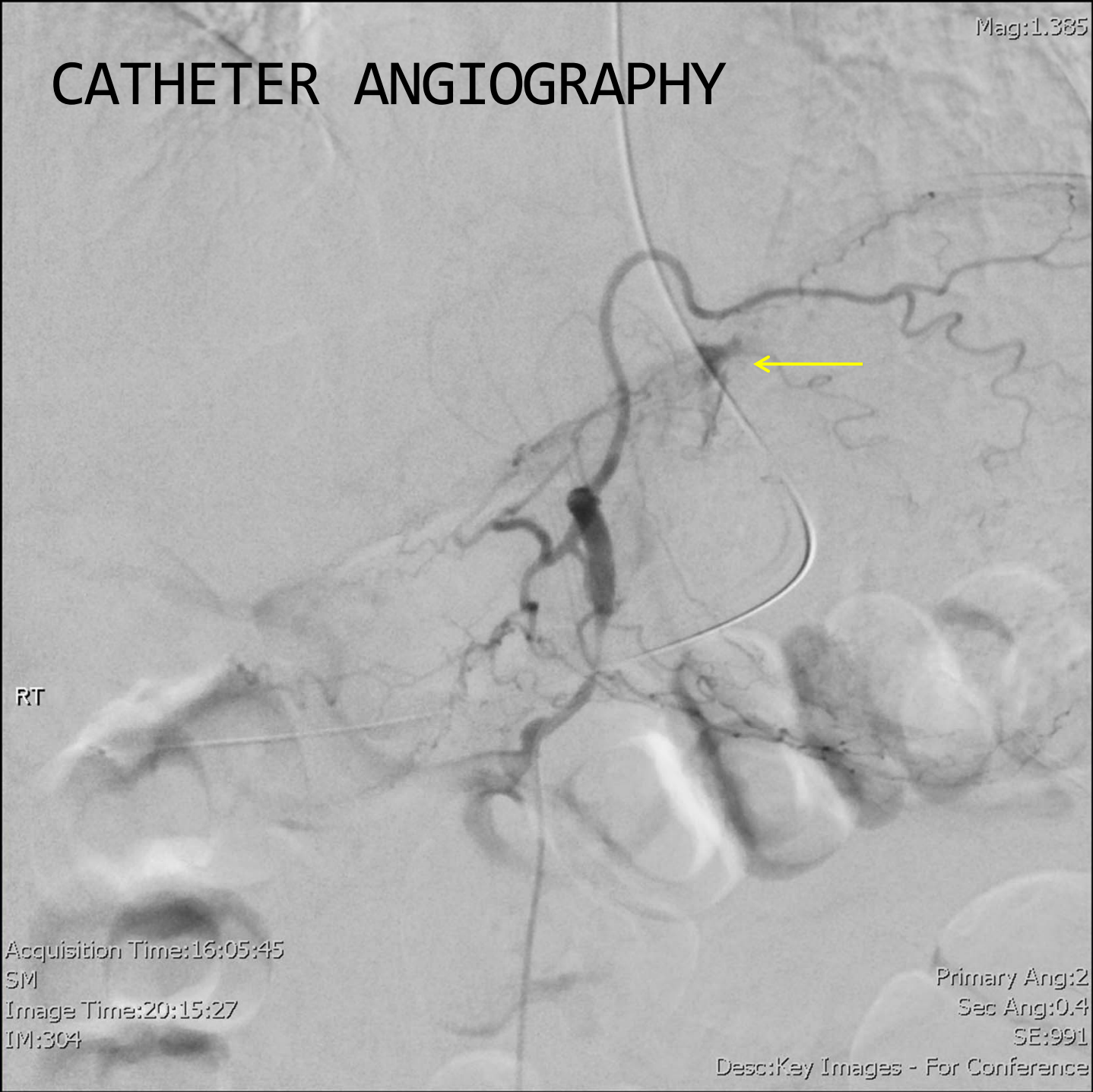
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SM
Image Time:20:14:57
IM:305

Primary Ang:-1.1
Sec Ang:0.4
SE:991

Desc:Key Images - For Conference

Mag:1.385

CATHETER ANGIOGRAPHY



RT

Acquisition Time:16:05:45

SM

Image Time:20:15:27

IM:304

Primary Ang:2

Sec Ang:0.4

SE:991

Desc:Key Images - For Conference

Mag:1.417

CATHETER ANGIOGRAPHY

RT



Acquisition Time:16:05:45
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IM:305

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Sec Ang:0.1
SE:991

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Mag:1.447

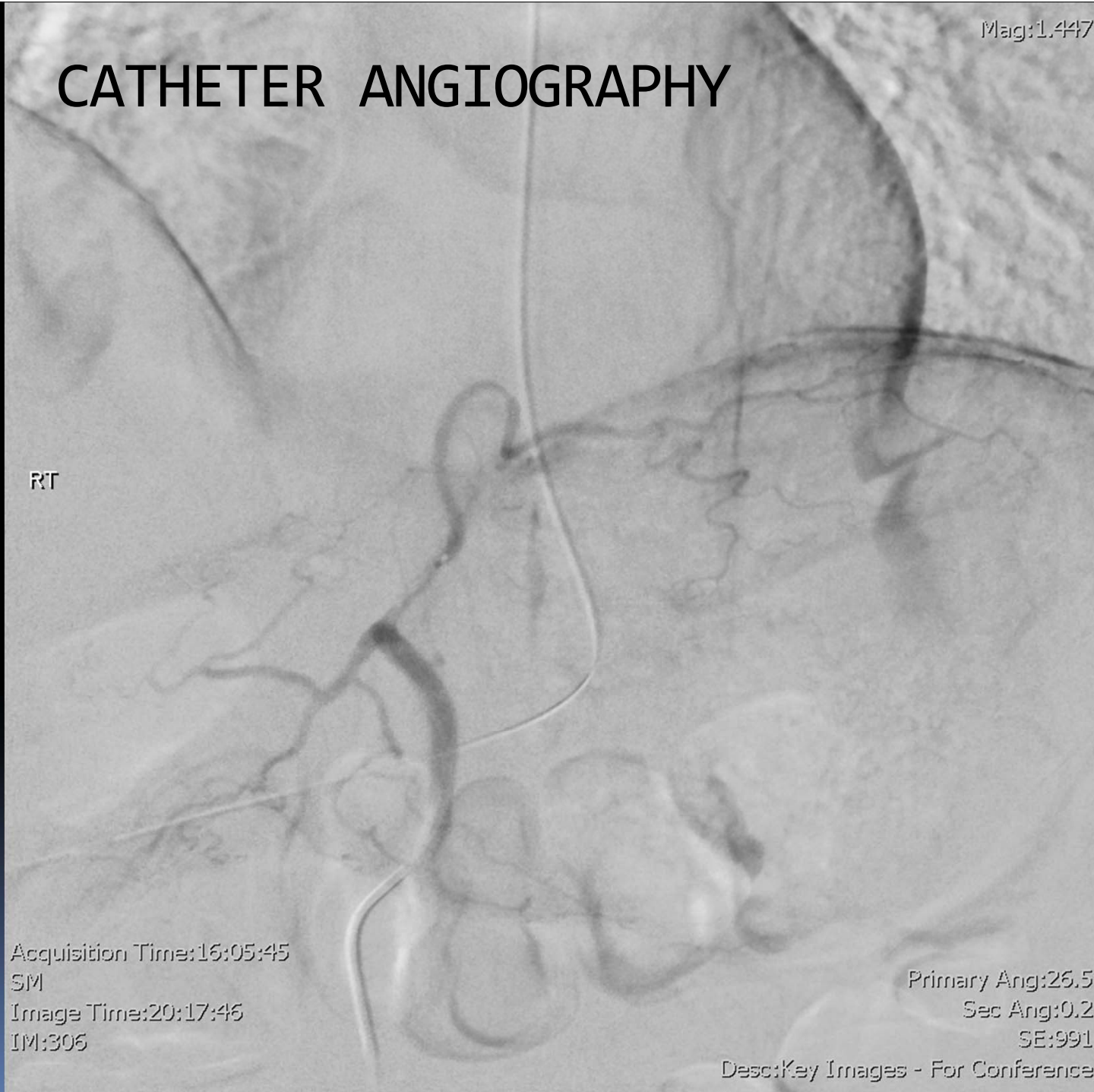
CATHETER ANGIOGRAPHY

RT

Acquisition Time:16:05:45
SM
Image Time:20:17:46
IM:306

Primary Ang:25.5
Sec Ang:0.2
SE:991

Desc:Key Images - For Conference



EMBOLIC AGENT ???

- Coils
- Gelfoam
- PVA particles
- Glue

Mag:1.459

RT

POST 500-710 MICRON PARTICLES

Acquisition Time:16:05:45

SM

Image Time:20:18:29

IM:305

Primary Ang:33.3

Sec Ang:0.1

SE:991

Desc:Key Images - For Conference

Mag:1.459

RT

POST 710-1000 MICRON PARTICLES

Acquisition Time:16:05:45

SM

Image Time:20:18:49

IM:303

Primary Ang:33.3

Sec Ang:0.1

SE:991

Desc:Key Images - For Conference

Mag:1.459

RT

POST MORE 710-1000MICRON PARTICLES

Acquisition Time:16:05:45

SM

Image Time:20:19:24

IM:309

Primary Ang:33.3

Sec Ang:0.1

SE:991

Desc:Key Images - For Conference

Mag:1.43



RT

Acquisition Time:16:05:45

SM

Image Time:20:20:51

IM:307

Primary Ang:4.3

Sec Ang:0.3

SE:991

Desc:Key Images - For Conference

Mag:1.43




RT

POST 500-710 MICRON
& 710-1000MICRON PARTICLES

Acquisition Time:16:05:45
SM
Image Time:20:21:25
IM:305



Primary Ang:4.3
Sec Ang:0.3
SE:991

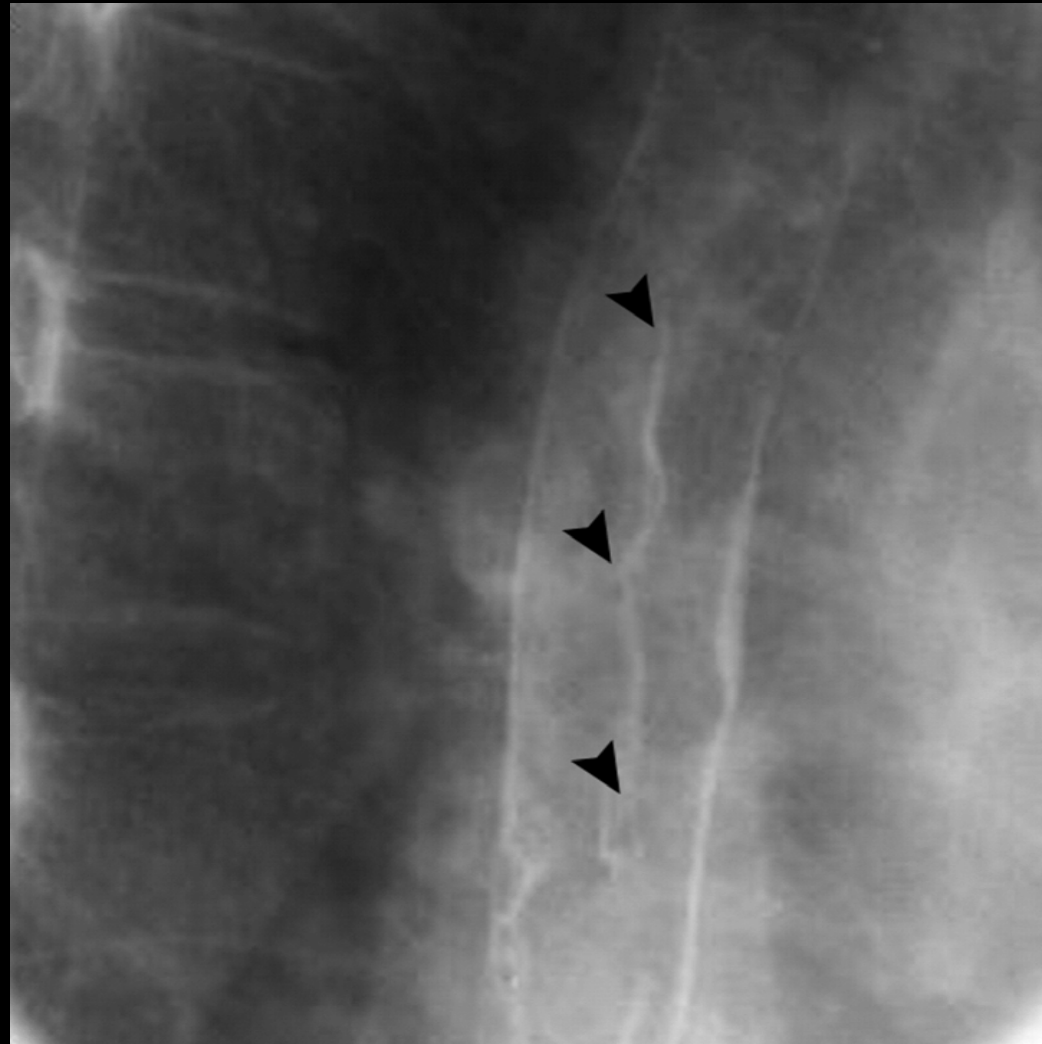
Desc:Key Images - For Conference

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- Pt did well after the procedure and did not have any clinical complications
 - Hgb continued to drop post procedure with lowest of 70g/L, 2 days later
 - Repeat Endoscopy; no active bleeding at the site
 - Mallory Weiss tear confirmed and a vessel could be seen underneath it
 - Treated with clips
 - Uneventful hospital course thereafter
 - D/C Hgb 95, full ambulation and normal diet

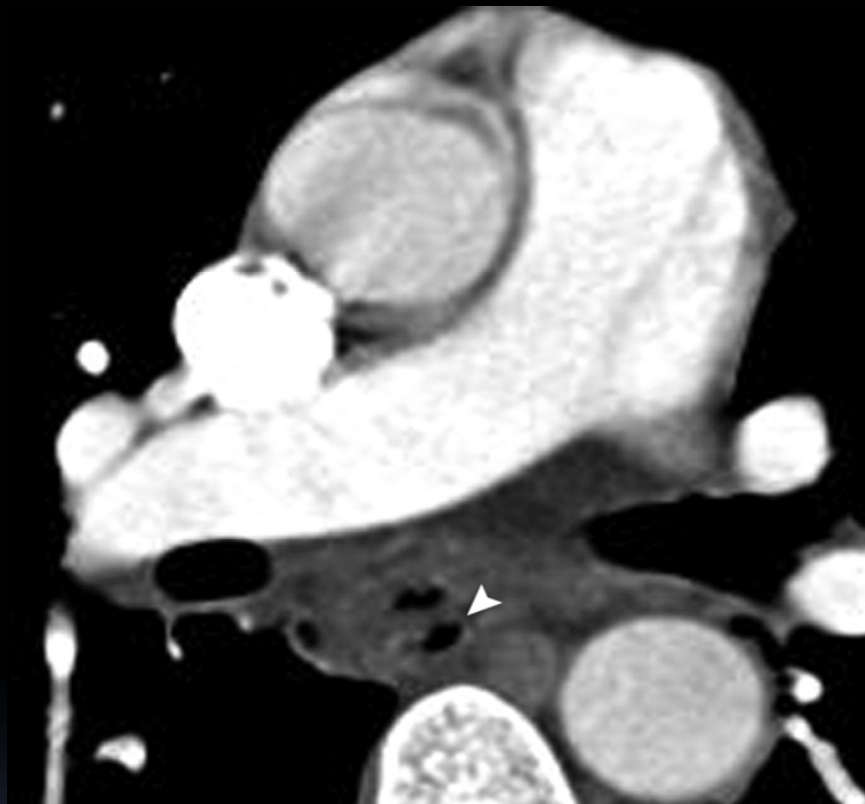
Mallory Weiss Tear

- Longitudinal mucosal laceration
- 1929; persistent retching and vomiting after binge drinking
- 1 – 15% of UGI bleed, Middle aged men
- Inc intra-abdominal pressure; 25% no risk factor
- 35- 100% Hiatal hernia, additional mucosal lesions

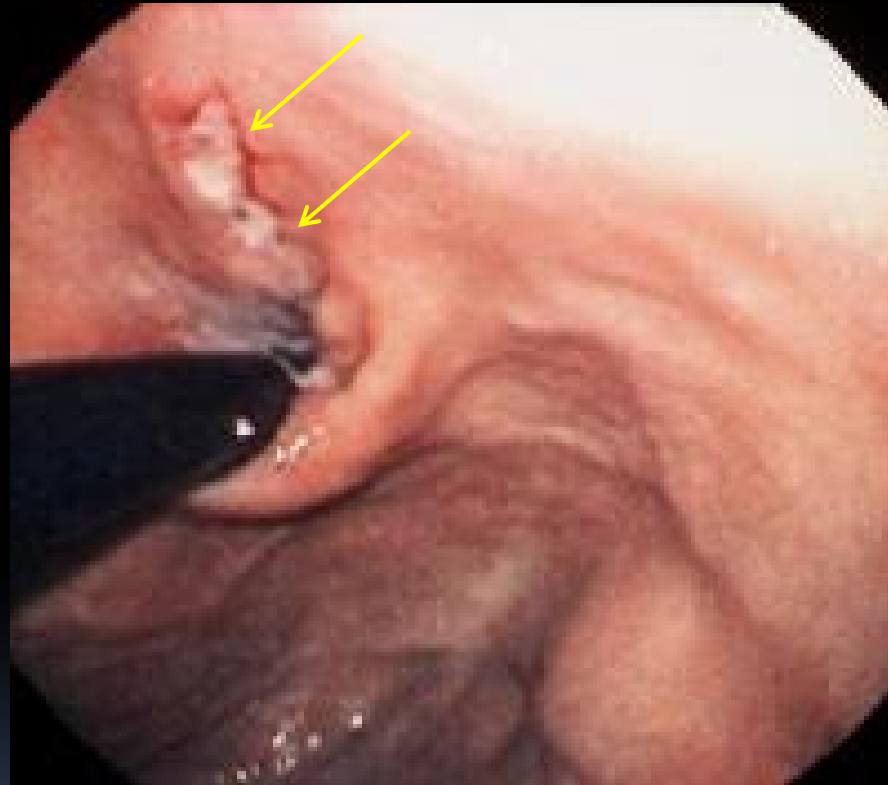
- 
- Typical history in 30%
 - Management
 - Endoscopic
 - Endovascular
 - Surgical
- 



Contrast Esophagogram showing linear mucosal defect consistent with a Mallory Weiss tear (arrow heads)
Such procedures are however not indicated for a suspected Mallory Weiss



Enhanced axial CT image shows a small air lucency outside the esophageal lumen (arrow head) sometimes seen in Mallory Weiss tears




Endoscopic image showing a linear mucosal tear after healing (arrows)
No intervention is necessary in such instances

Endoscopic treatment

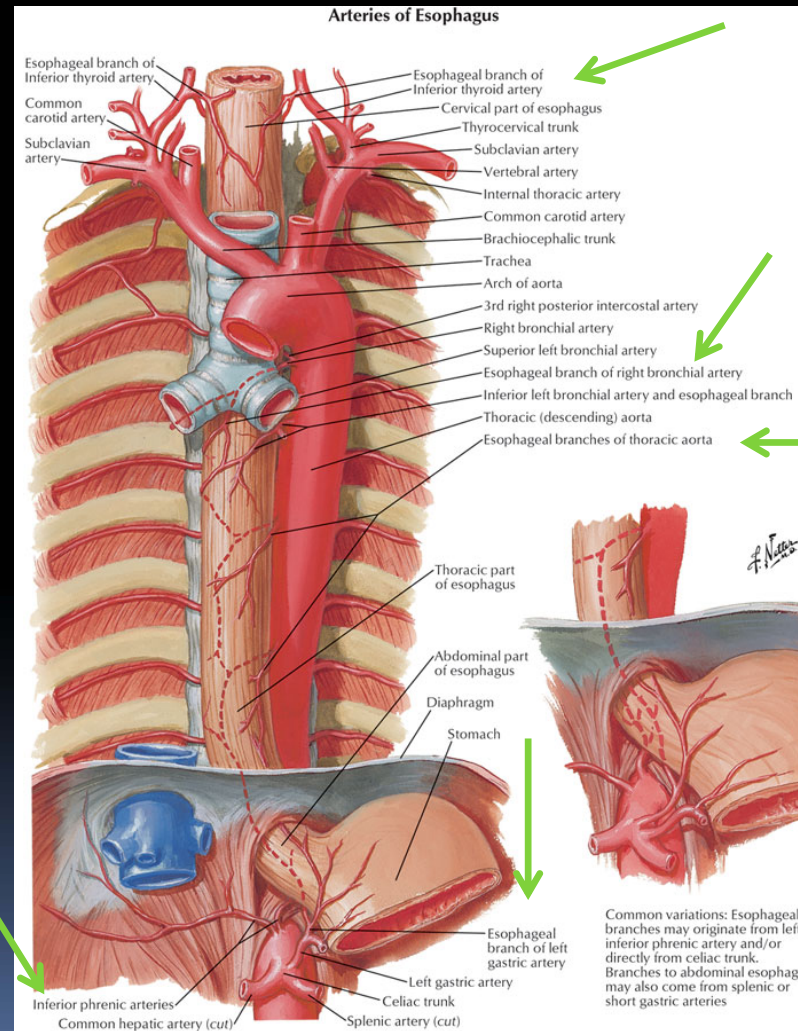
- Contact thermal
- Epinephrine
- Sclerosant
- Band ligation
- Hemoclip
- Argon plasma coagulation



Interventional Radiology

- Important considerations
 - Esophageal blood supply
 - Choice of embolic agent
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Arterial blood supply of esophagus



EMBOLIC AGENT

- vascular anatomy
- angiographic findings
- achievable catheter position
- operator's preference
- vessel diameter
- permanent or temporary embolization

- Use of coils alone is significantly associated with early re-bleeding, compared with the use of PVA particles or gelatin sponge with coils

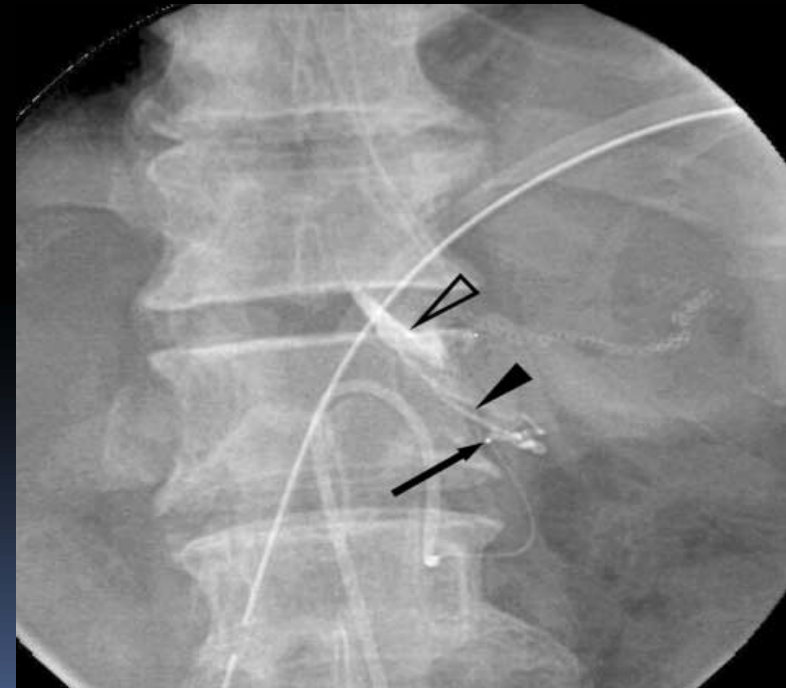
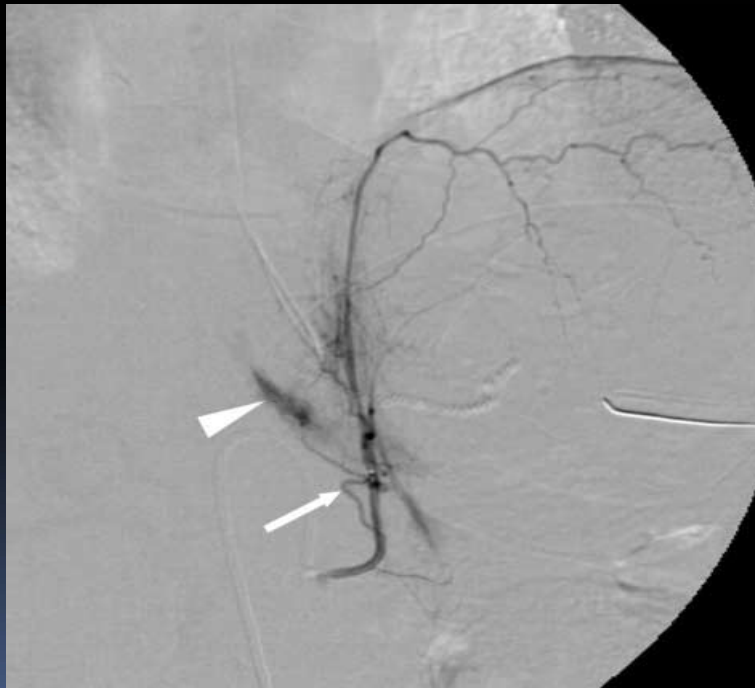
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- Liquid embolic agents

- NBCA

Angiographic images showing active contrast extravasation from an esophageal artery coming off aorta
(white arrow/arrow head)

NBCA glue seen in esophageal artery and lumen post embolization (black arrow/arrow head)



Learning points

- The knowledge of esophageal arterial blood supply is very important before undertaking any embolization procedure
- CT angiography can help localize the source of bleeding which can result in significant reduction of procedure time and radiation
- The choice of embolic agents depends on a multitude of factors but generally coil embolization of proximal branches should be avoided

References

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