

Interventional Hemorrhage Management

A case-based overview

Dr. Giovanni F. Torsello, BA
Department of Radiology
Charité – Universitätsmedizin Berlin

Disclosure

Speaker name:

.....Giovanni Federico Torsello.....

I have the following potential conflicts of interest to report:

- Consulting
- Employment in industry
- Stockholder of a healthcare company
- Owner of a healthcare company
- Other(s)

- I do not have any potential conflict of interest

Which materials should be used?

Vessel anatomy: Large vs. Small, Terminal vs. Not

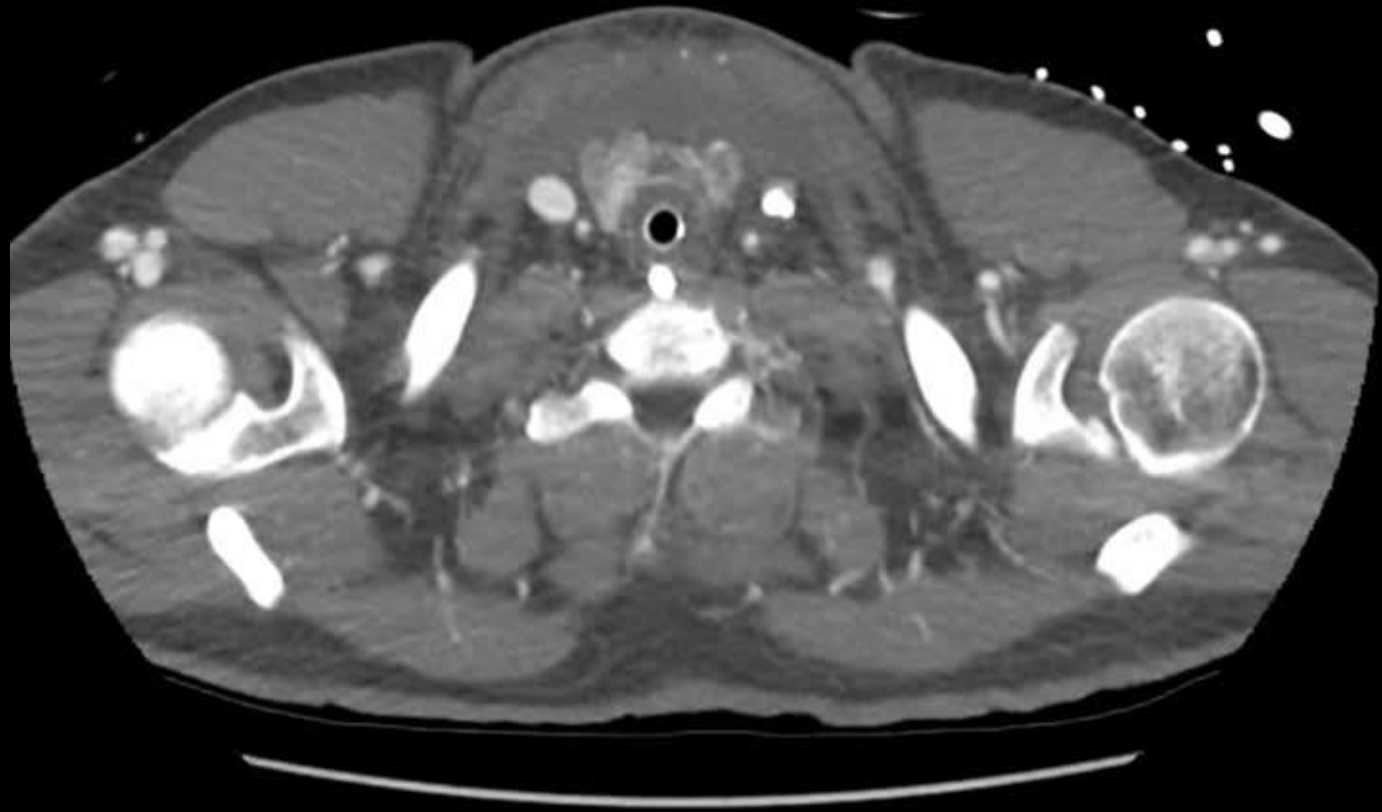
Orifices: Must/can I sacrifice?

Technique: Am I able to perform the right technique, e.g. frontdoor-backdoor embolization?

Risk: What happens in case of off-target embolization?

Anticoagulation: Is the patient effectively anticoagulated?

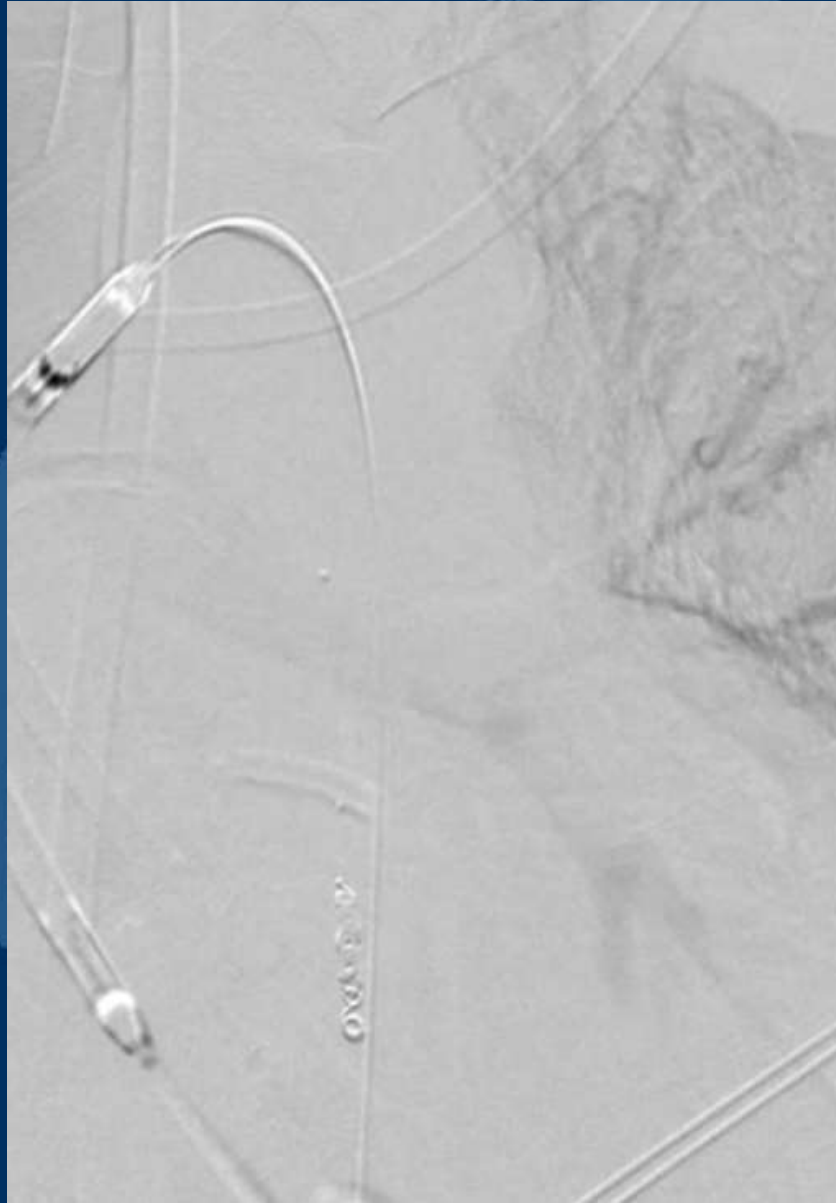
Male, 58 y
Massive MI w
Cardiac arrest
Impella Device
ECMO-Tx
Reuscitation
Hb drop

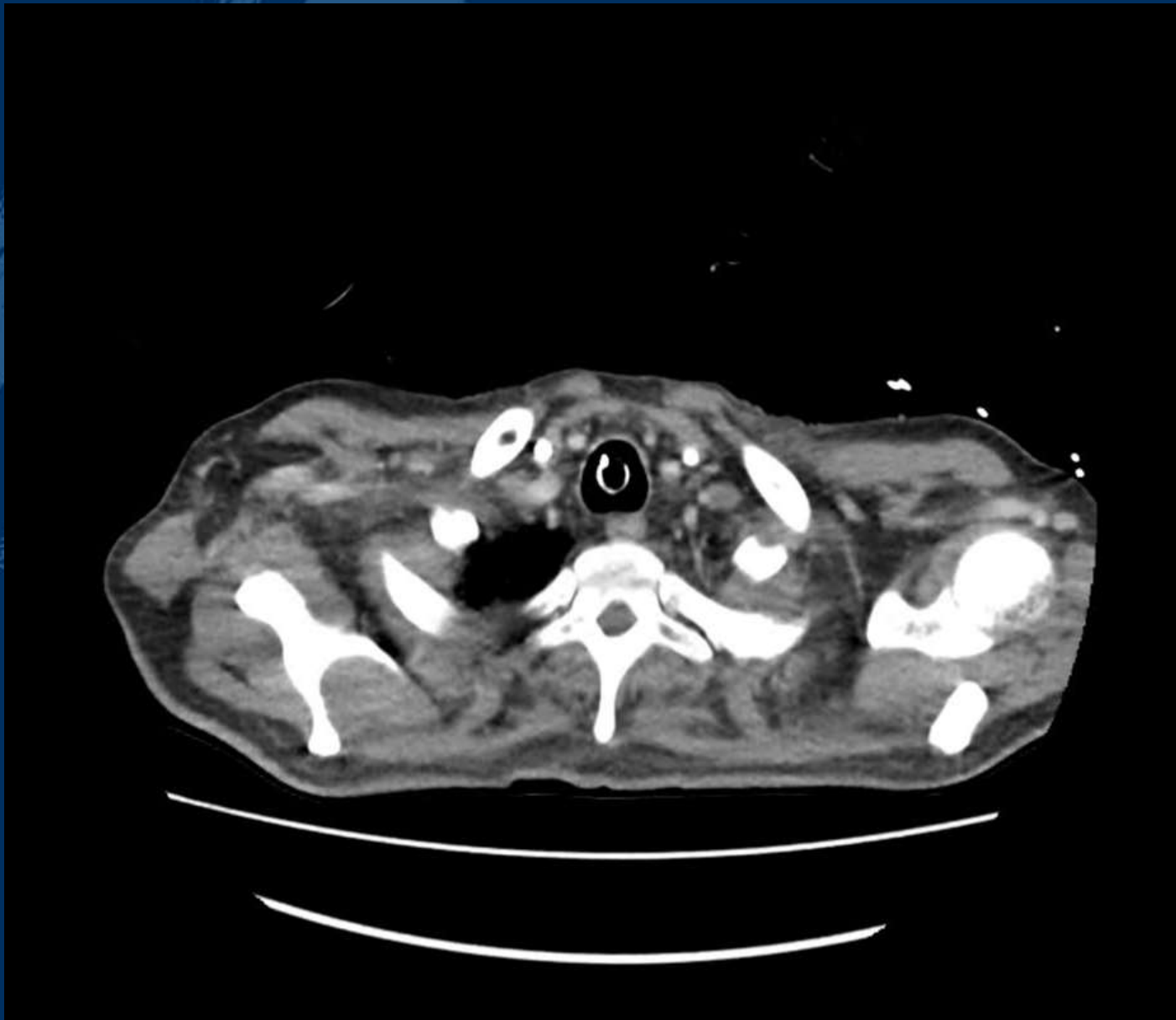




prae embolizat
link

Variable		+	-
Vessel anatomy	Small vessel, non-terminal bleeding	Coils	Stent-graft (Particles)
Orifices	None	all	
Technique	Frontdoor-Backdoor possible	Coils	
Risk	Low risk of non-target embolization	Particles, glue	
Anticoagulation	Currently gentle anticoagulation	Particles, coils, glue	





Male, 66 y

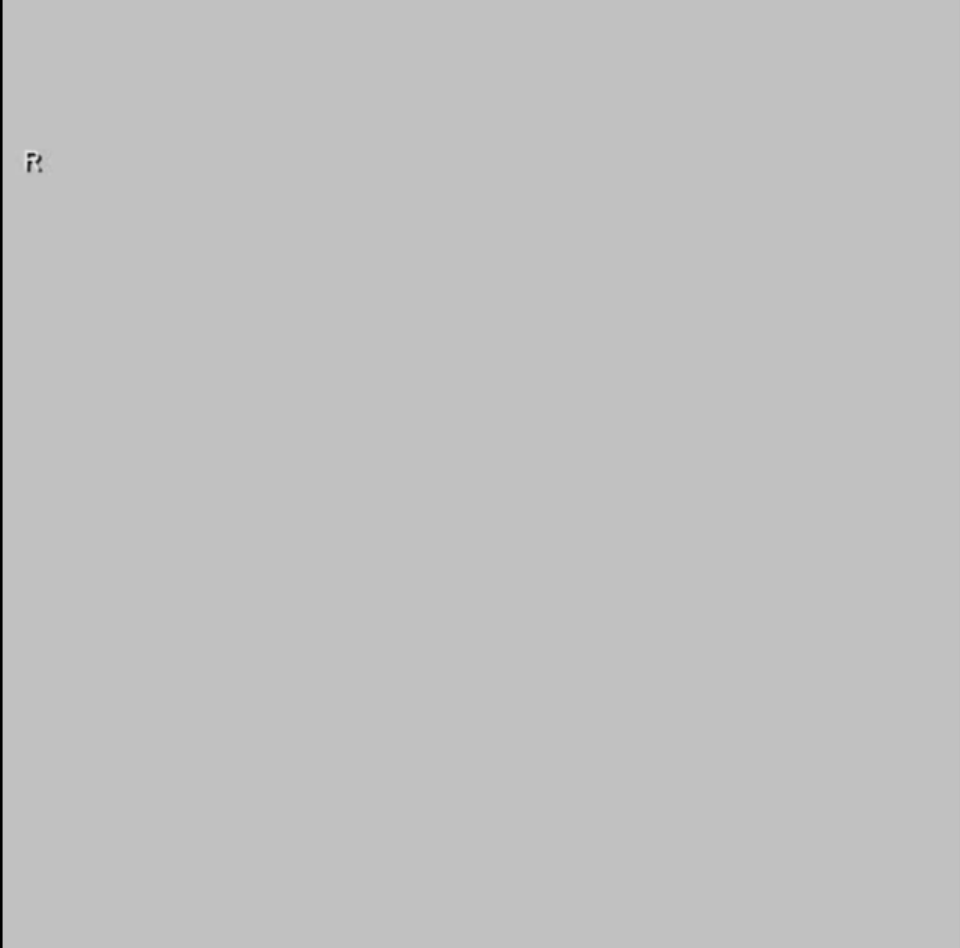
Ileo-ileostomy
following
rectum
resection,
CRS/ HIPEC

Episodes of
massive
melena

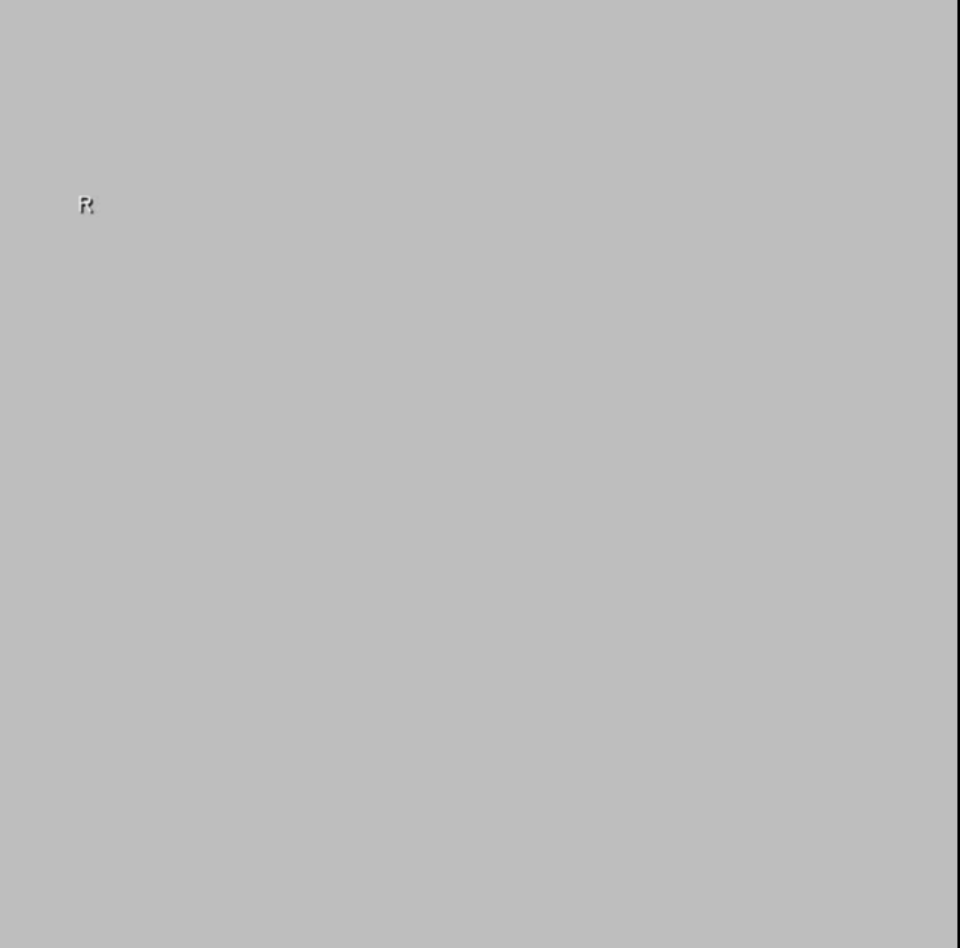
Endoscopy
unremarkable

Hb drop





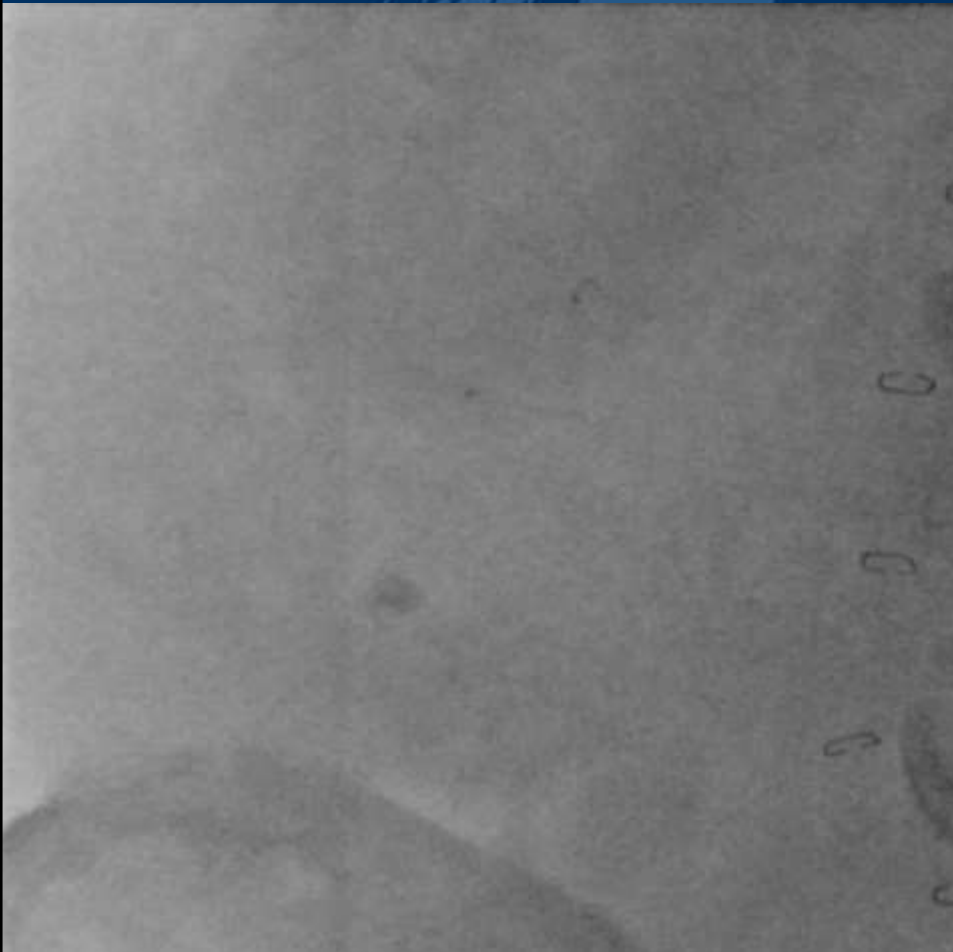
R



R



Variable		+	-
Vessel anatomy	Small vessel, terminal bleeding	Particles, Glue	Stent- graft (Coils)
Orifices	None	all	
Technique	Distant and tortuous access favoring liquid embolics	Particles, Glue	Stent- graft, coils
Risk	Ischemia necessitating resection	Coils	
Anticoagulation	normal	all	



R
post Embol.

Female, 45 y

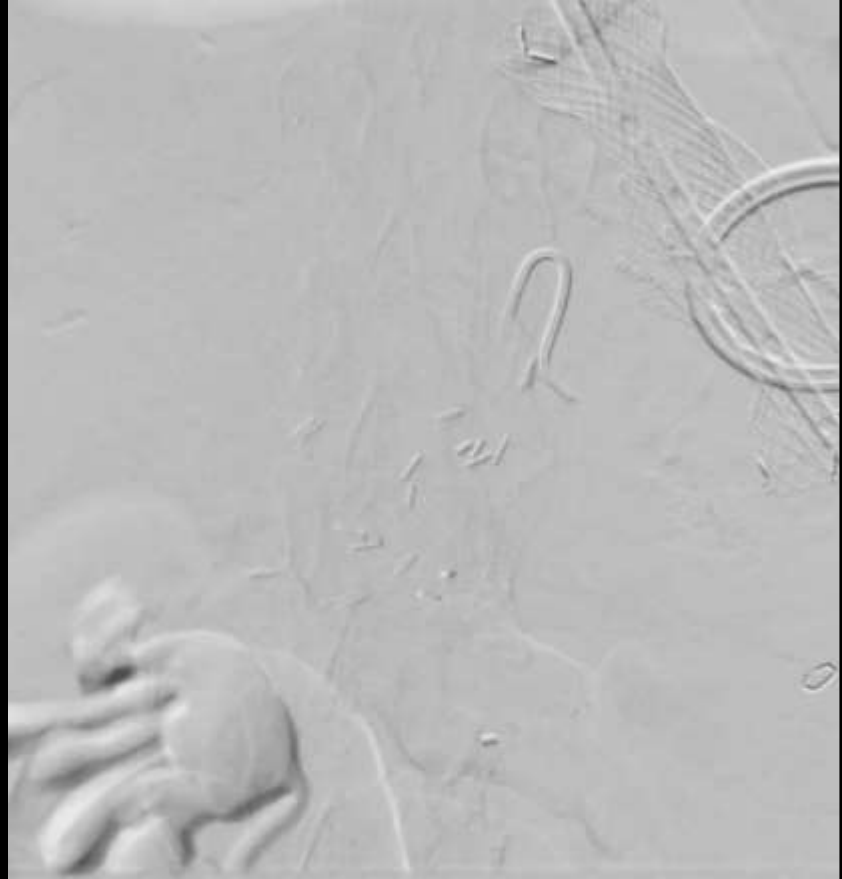
Gastric Ca,
infiltrating
pancreas

Gastrectomy w
roux-en-y,
subtotal
pancreatectomy,
splenectomy,
esophageal
stenting

Pancreatic
fistula

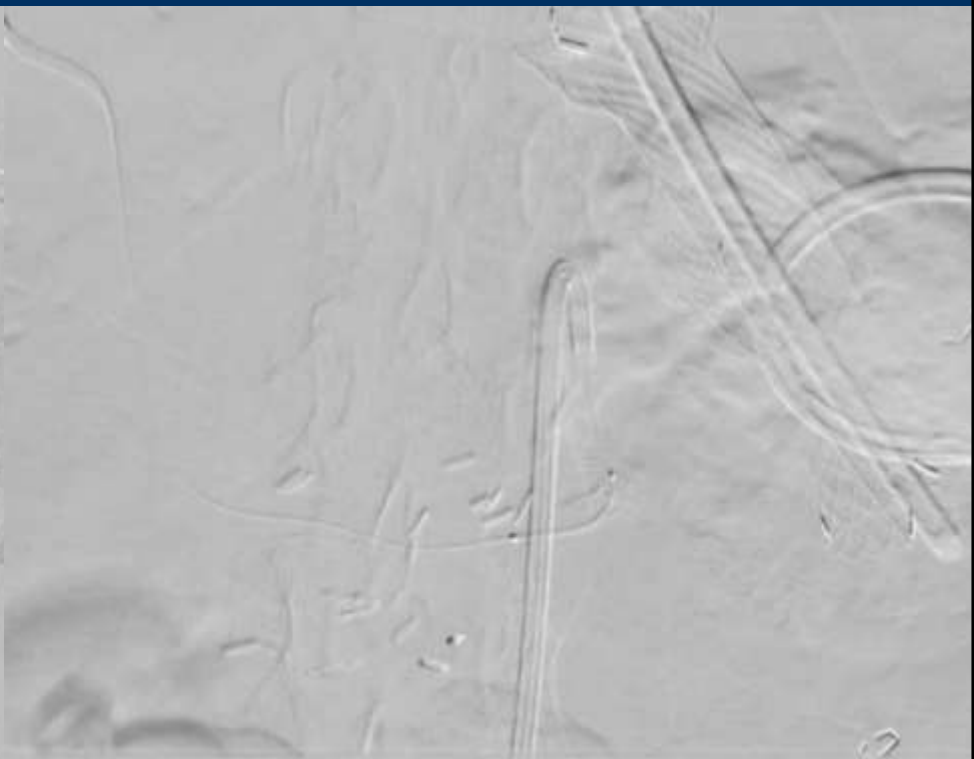
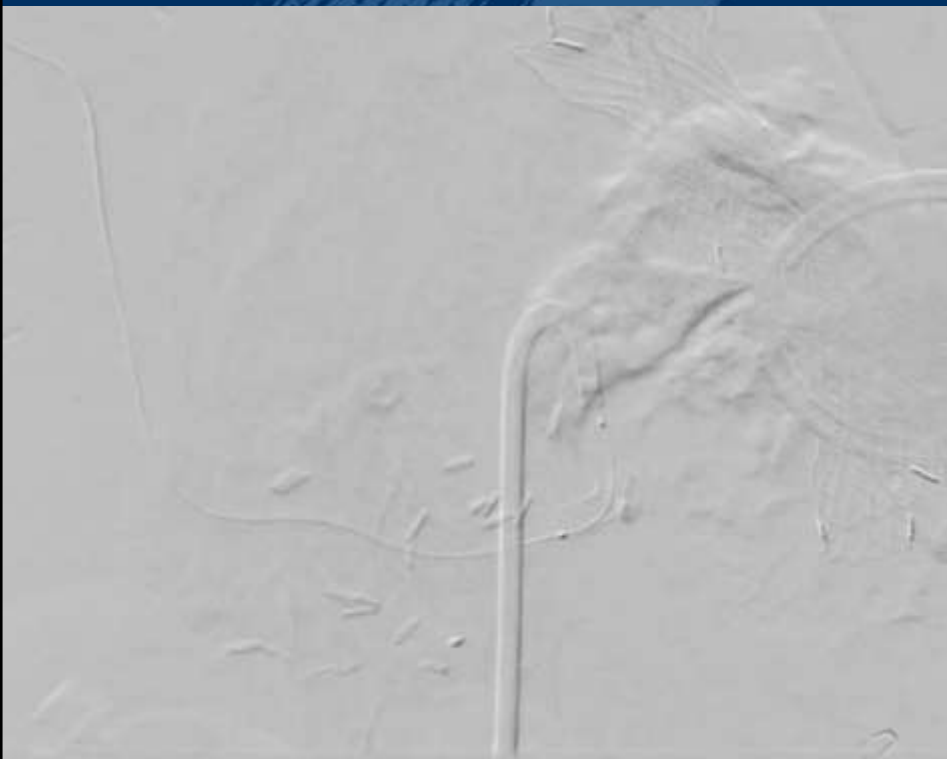
Hematemesis





Variable		+	-
Vessel anatomy	Large vessel, non-terminal bleeding	Stent-graft, coils	Particles, glue
Orifices	Common hepatic	Stent-graft	
Technique	Pseudoaneurysm with a small neck	Stent-graft	Particles, glue, (coils)
Risk	Non-target embolization, PA rupture, recanalization	Stent-graft	Particles, glue, coils
Anticoagulation	normal	all	





Male, 56 y

C2 liver cirrhosis
w acute
decompensation

Hepatorenal
syndrome

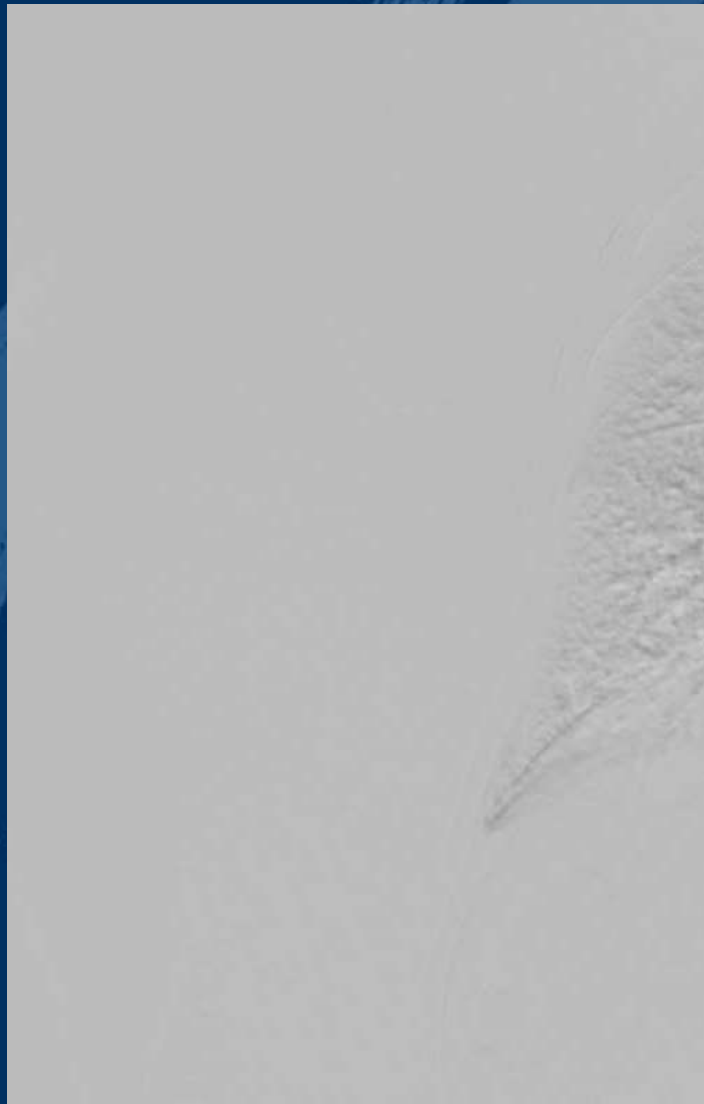
Q 28%

INR 2.66

aPTT 77.6 sec

Routine CT scan
before LTX





Variable		+	-
Vessel anatomy	Small vessel, terminal bleeding	Particles, glue, coils	Stent- graft
Orifices	None	Particles, glue, coils	Stent- graft
Technique	Trombone-technique possible	glue	
Risk	Negligible	glue	
Anticoagulation	No effective coagulation	Glue	Coils



Conclusion

Success depends on material choice, based on:

Vessel anatomy

Technique

Risk

Coagulation status

Interventional Hemorrhage Management

Dr. Giovanni F. Torsello, BA
Department of Radiology
Charité – Universitätsmedizin Berlin