

Dr Mohamad Reza Babaei

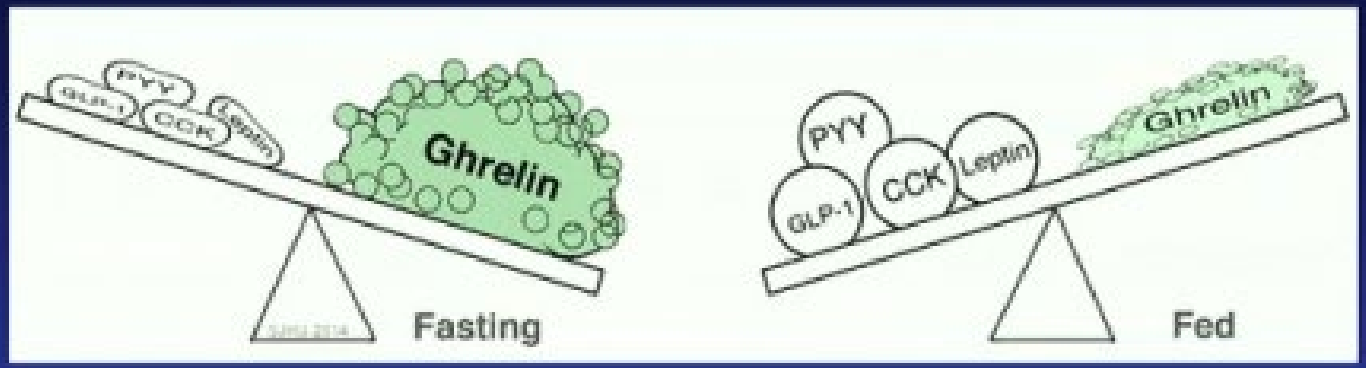
Associated professor of Interventional Radiology

Iran university of medical science

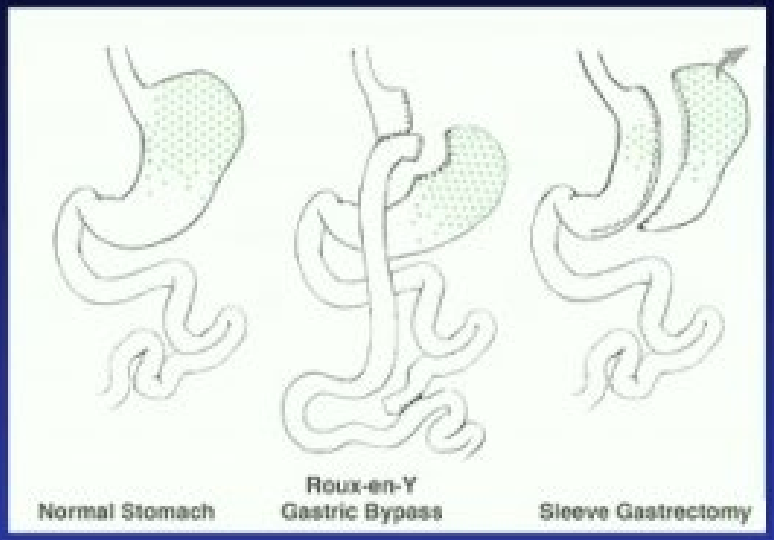
The role of Interventional radiology in

bariatric procedures

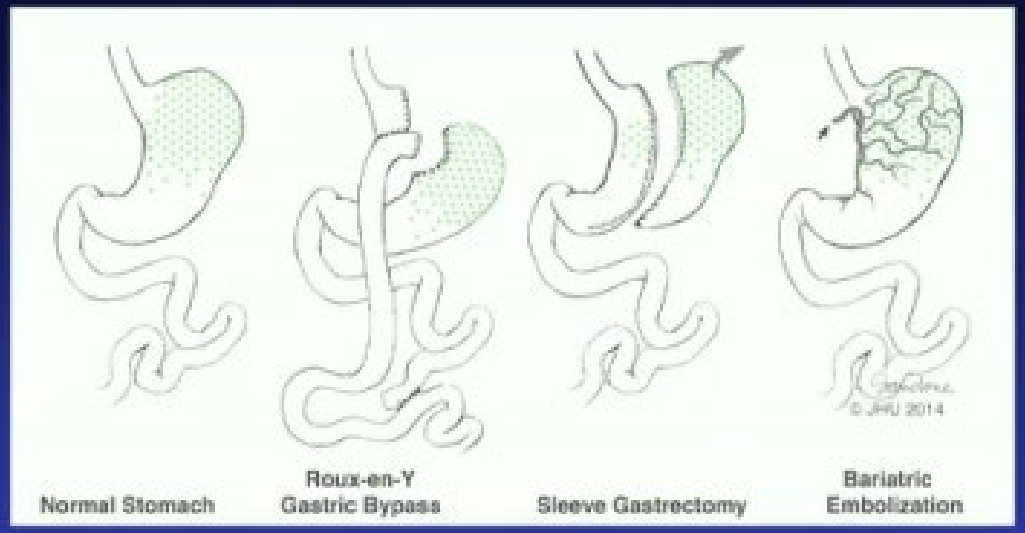

Prevalence of Obesity
Normal
Overweight
BMI≥30
Obese
BMI≥40
Morbibly Obese
CDC
1960
31.5%
13.4%
0.9%
2010
32.7%
36.1%
6.6%


PYY
GLP-1
CCK
Leptin
Ghrelin
Fasting
PYY
GLP-1
CCK
Leptin
Ghrelin
Fed

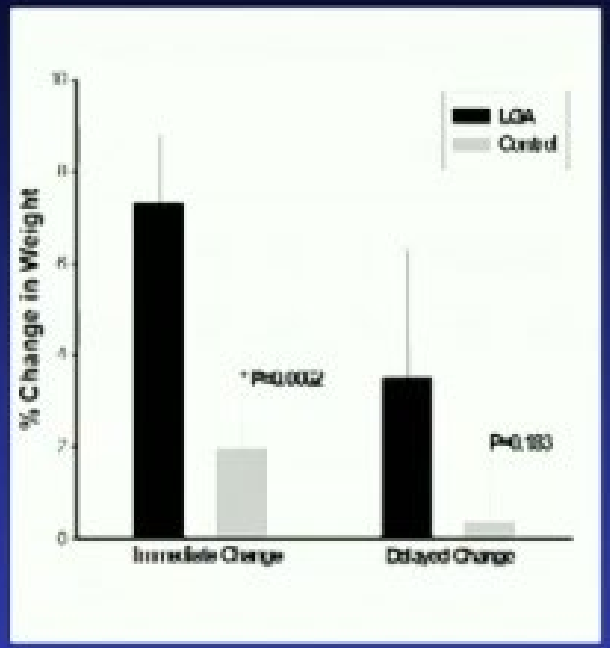
Bariatric Surgeries "Isolate" the Fundus and Prevent Ghrelin Production



Bariatric Embolization Induce Fundal Ischemia, Decrease Fundal Production



Early Human Data: Retrospective



Retrospective analysis of patients with LGA embolization (19) UGIB demonstrated weight loss when compared to patients (28) with non-LGA arterial embolizations for UGIB

3 month TWL:
LGA Embo = 7.3% TWL
Controls = 2% TWL

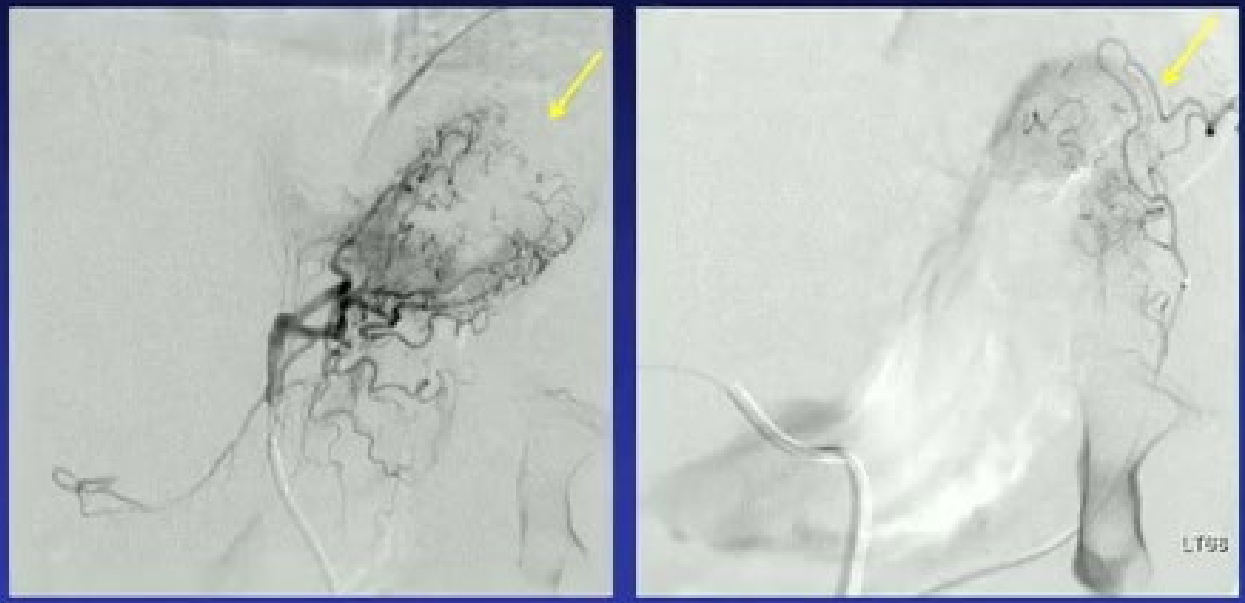
BAE Procedure

- Celiac DSA from femoral or radial approach (5ml for 25ml)
- Celiac CBCT
  - Zeego (Siemens Healthcare), 6s DSA with PBV protocol, 210° rotation, 0.5/step, ~30% iohexal (4ml for 40ml)
- Selective LGA DSA (3 ml for 9 ml)
- IA via LGA: Verapamil 2.5 mg, Nitroglycerine 200 mcg, Heparin 300 U
- LGA embolization with 300-500µm Embosphere® microspheres to 5 beats stasis (1:10 dilution in 50:50)
- Completion Left Gastric DSA
- Selective GDA/GEA DSA (3 ml for 9 ml)
  - GEA embolization (as needed) with 300-500µm Embosphere® microspheres
- Completion GDA/GEA DSA
- Repeat Celiac DSA and CBCT if contrast and DAP allow

Why Gastroepiploic?

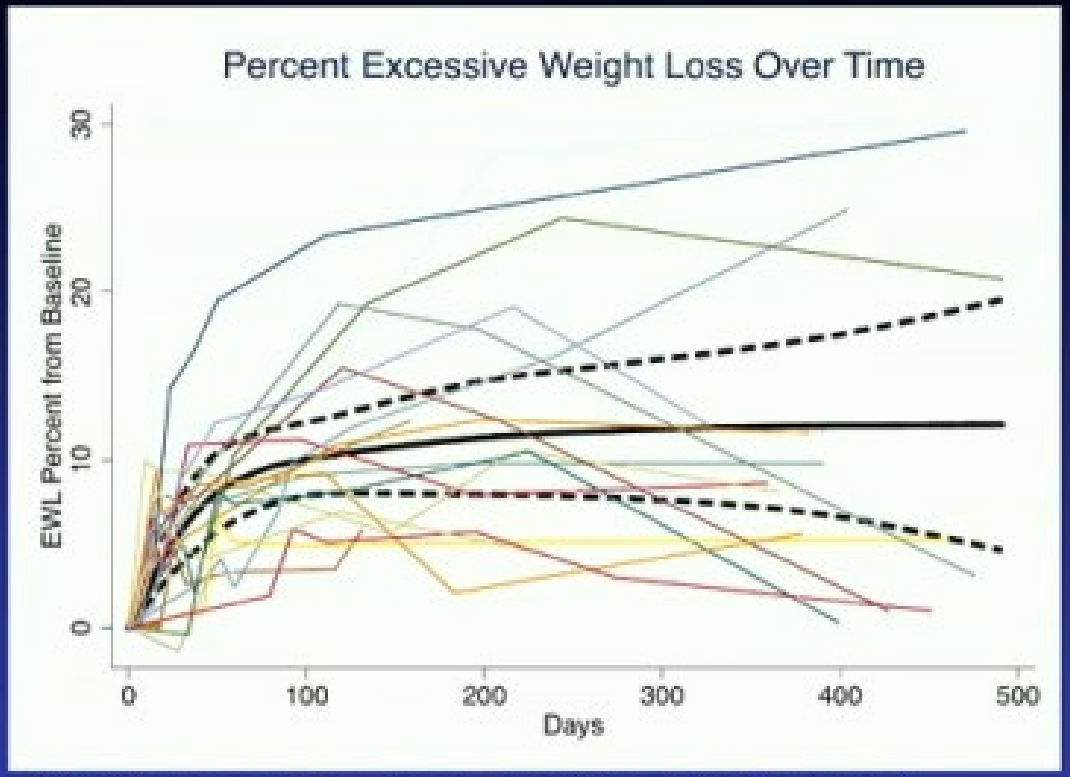
LGA, Filling defect

Distal Gastroepiploic feeding Fundus



37 y.o. AAF, BMI: 42.1

%EWL over time



0.28% excess wt loss / week. 95% CI = (0.18%, 0.38%)

Kipshidze N, et. al.

TABLE 2 Weight Loss Results: Individual and Mean Weight at Baseline and FU

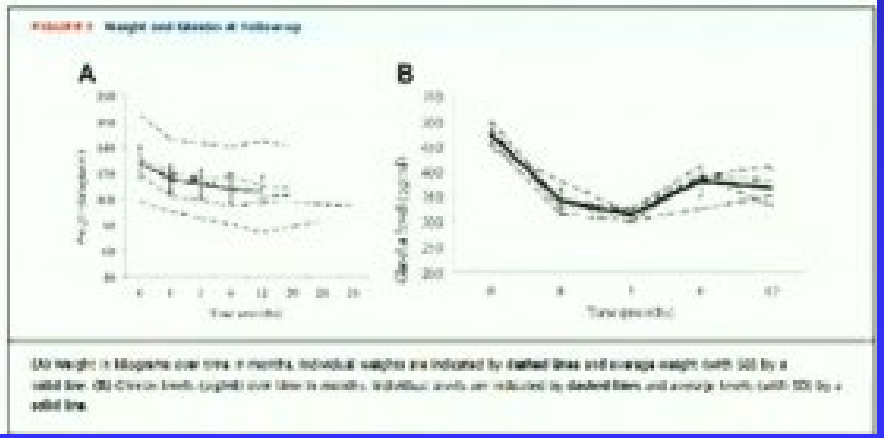
Patient #	Initial Weight, kg	Weight (kg) At 1-Month FU	At 3-Month FU	At 6-Month FU	At 12-Month FU	At 20–24-Month FU
1	119	102	99	94	98	95
2	165	146	143	140	145	140
3	98	90	85	80	74	83
4	131	120	116	117	110	108
5	127	117	114	107	103	102
Mean	128 ± 24	115 ± 21	111 ± 22	108 ± 23	106 ± 26	106 ± 21
p Value		0.0082	0.0032	0.0008	0.0002	0.027

Values are mean ± SD. p Values are calculated by the paired t test; p values at 1-, 3-, 6-, and 12-month follow-up calculated by the Wilcoxon signed rank test are 0.043, 0.042, 0.062, 0.061, and 0.048, respectively.
FU follow-up.

300- to 500-µm BeadBlock (Biocompatibles) to LGA
No lifestyle intervention

N=5; Mean BMI 42
4 male/Mean age 44.7 y

3/5 had mild epigastric discomfort
Normal gastroscopy @ 24 h & 1 wk
17% mean weight reduction @ 12 months



Management of Post-operative Surgical Complications

Percutaneous drainage (PD)

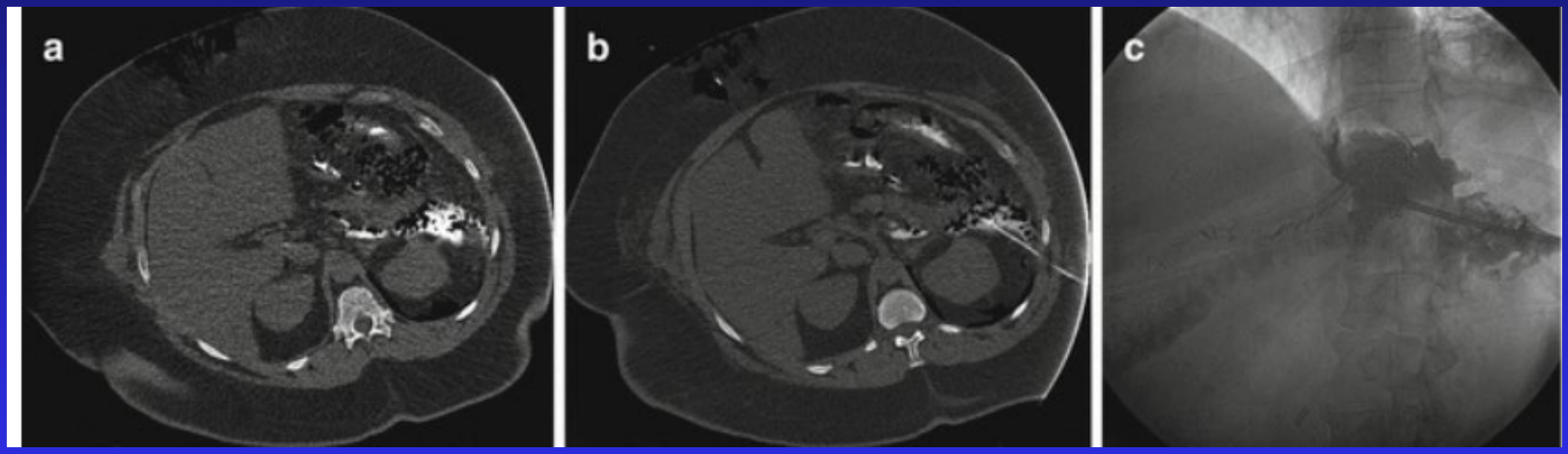
Stent-graft (SG)

Inferior vena cava (IVC) filter placement

Pulmonary embolism

Bleeding

Aspiration/Drainage of Collections



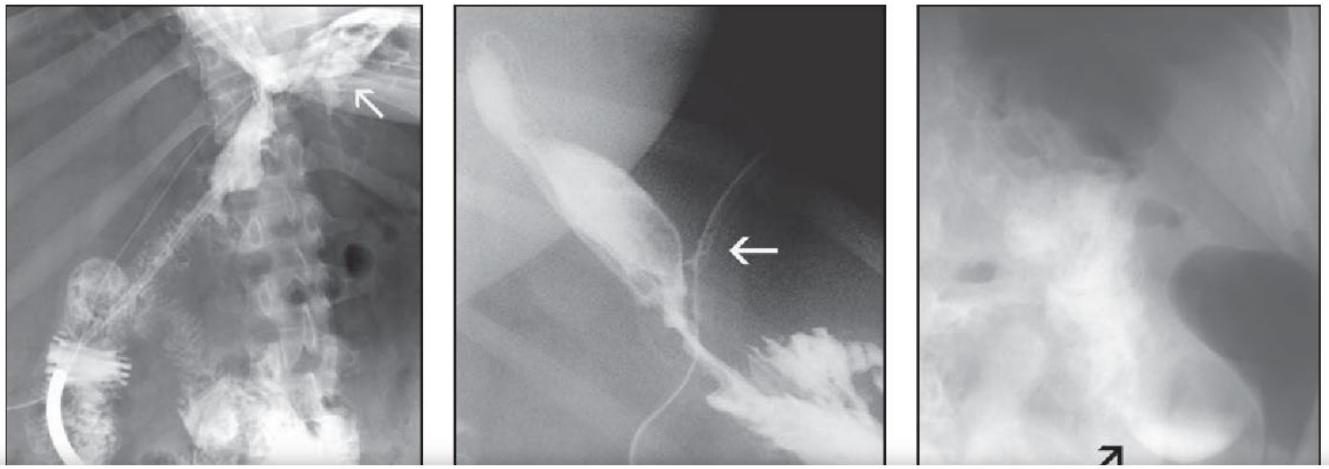


Figure 1. Aspects of leaks on gastrointestinal series: A: Major leakage of contrast material into the left subphrenic space (arrow) B: Minor anastomotic leak towards a surgical drain (arrow). C: Non-conclusive, unusual aspect of contrast material at UGIS (arrow) – extraluminal collection or ectactic loop? The CT image (not shown) has not demonstrated extraluminal collection of contrast material surrounding the excluded stomach. Collapse

Published in 2008

Anastomotic leaks after Roux-enY gastric bypass surgery by Higa ' s technique for treatment of morbid obesity : radiological findings *

E. Labrunie, E. Marchiori, J. Tubiana

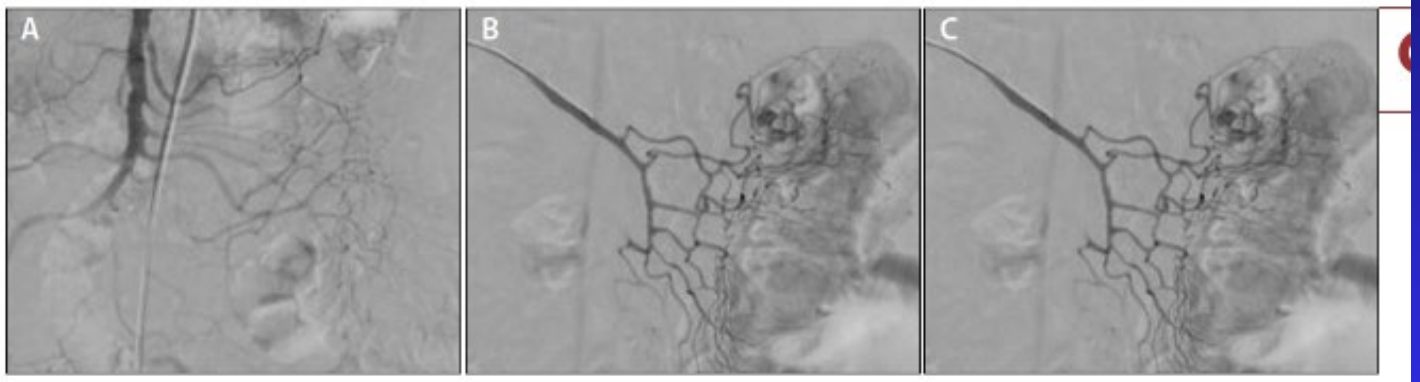
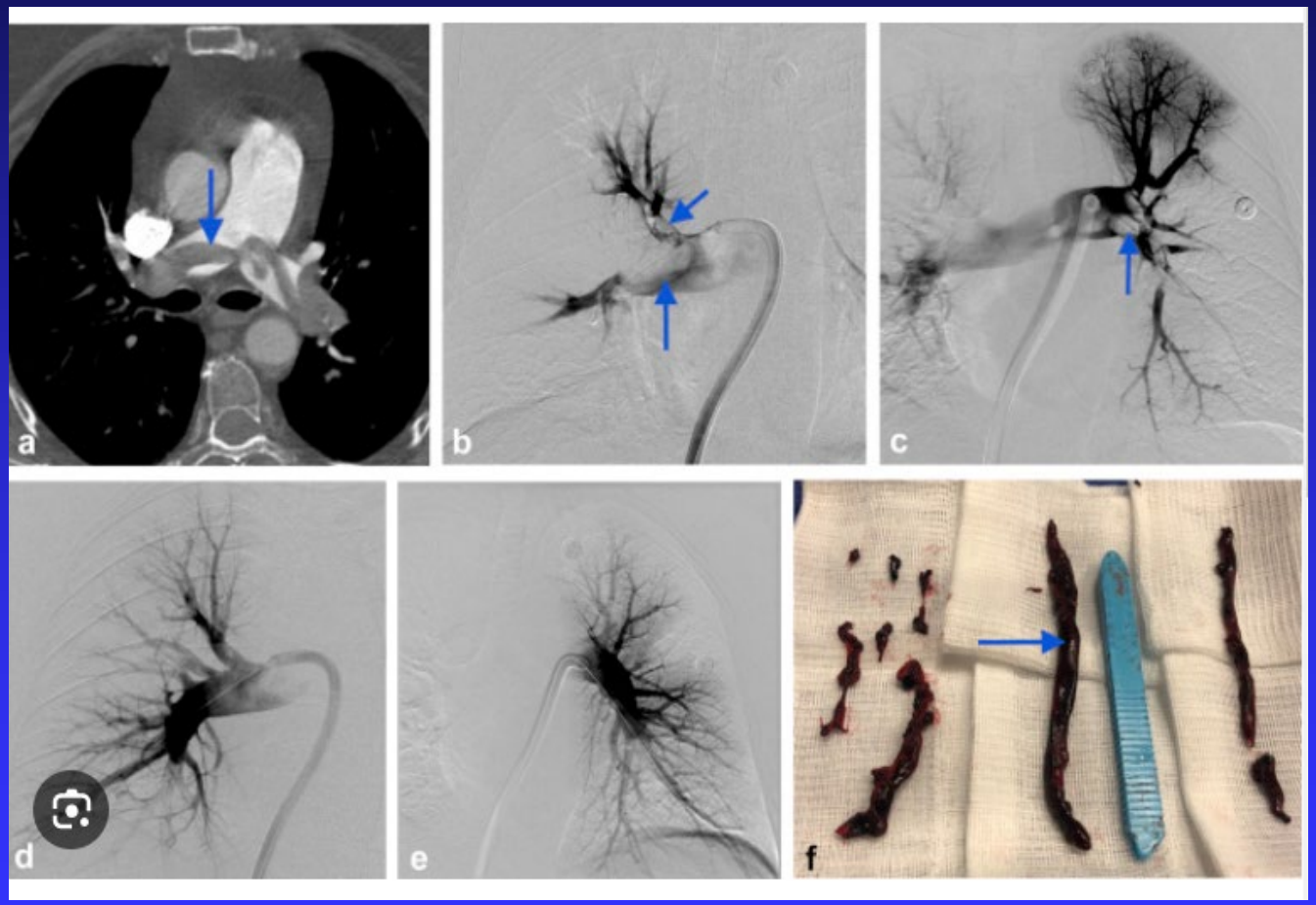


Figure 3. Identification of the occult source of hemorrhage after provocation (A). Initial negative DSA demonstrated no active contrast extravasation (B). After administration of tPA and heparin, active contrast extravasation was identified and subsequently coiled (C).


a
b
c
d
e
f

Thank you

