

Transarterial Embolization for Type II Endoleak after Endovascular Abdominal Aortic Repair

Pyung Chun Oh, Eak Kyun Shin, Woong Chol Kang

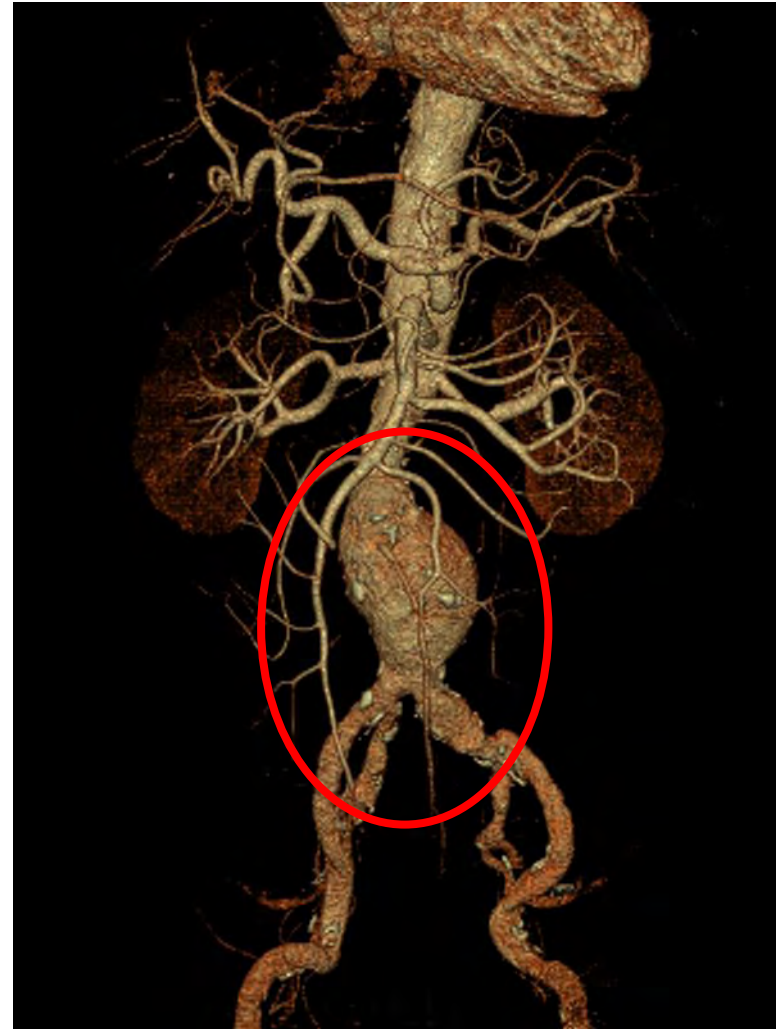
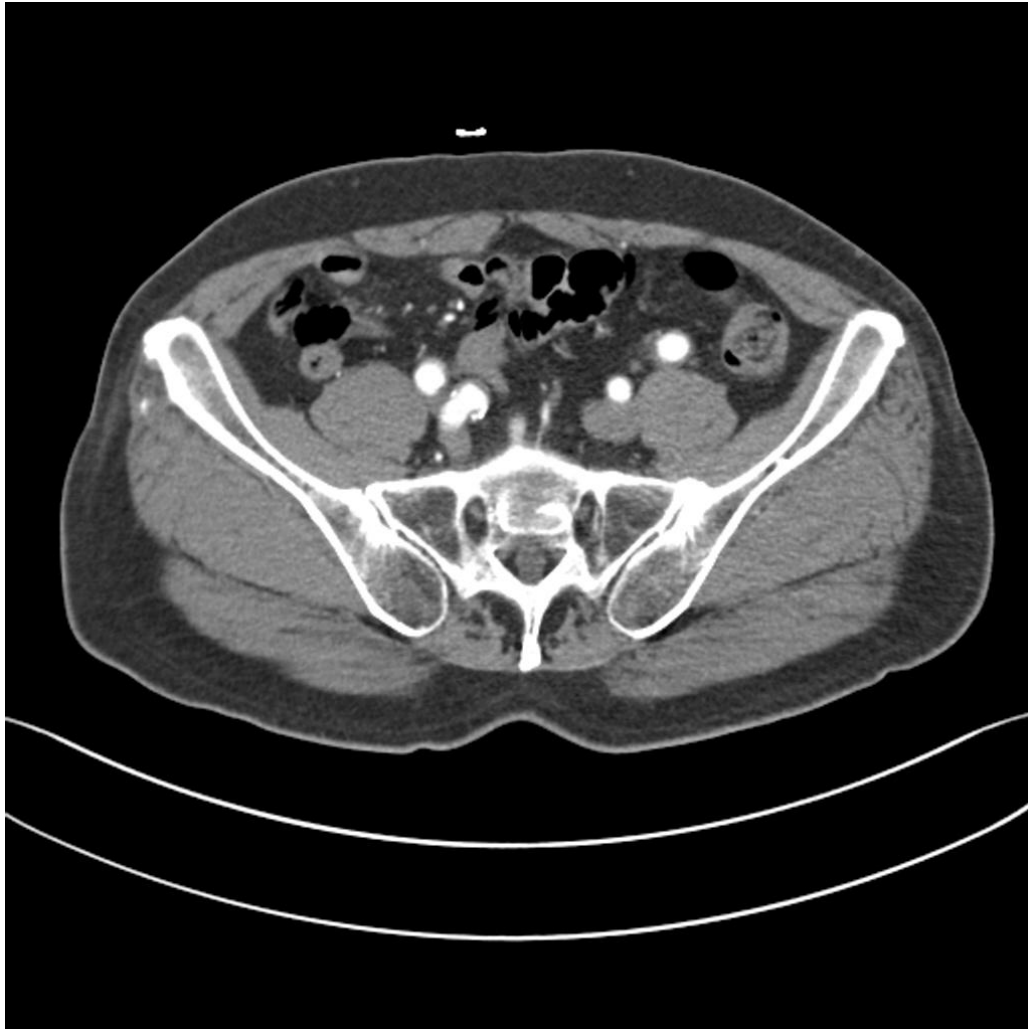
Jong Goo Seo, Soon Yong Suh, Kyoungsoon Lee,
Seung Hwan Han, Taehoon Ahn,

Division of Cardiology, Department of Internal Medicine
Gil Hospital, Gachon University,
Incheon, Republic of Korea

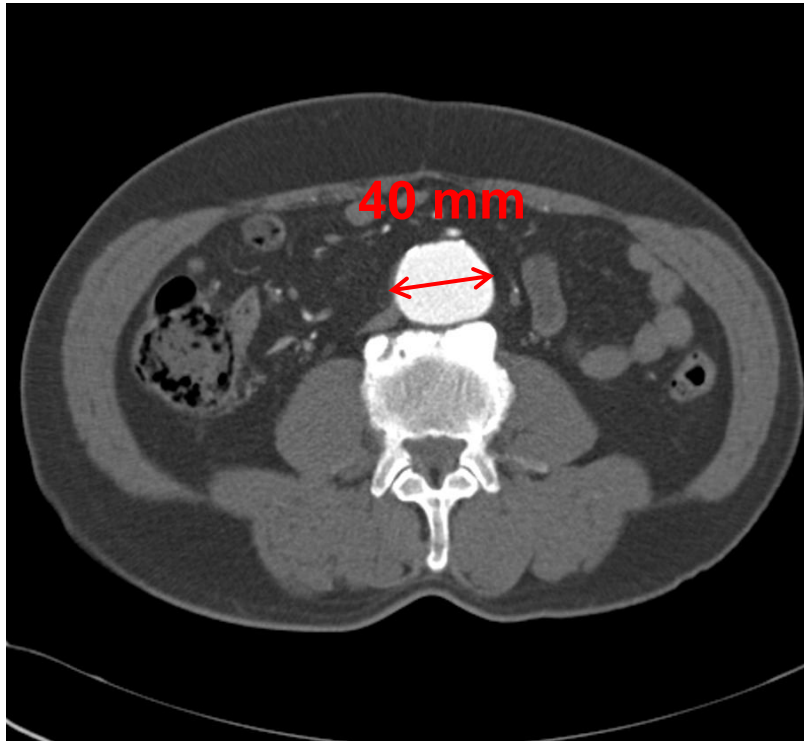
Case

- 65 year-old male
- No complaints
- Known infrarenal abdominal aortic aneurysm (AAA) since 3 years ago
- Medical history
 - DM, HTN
 - Angina pectoris
- Follow-up CT angiography
 - Increased size of AAA

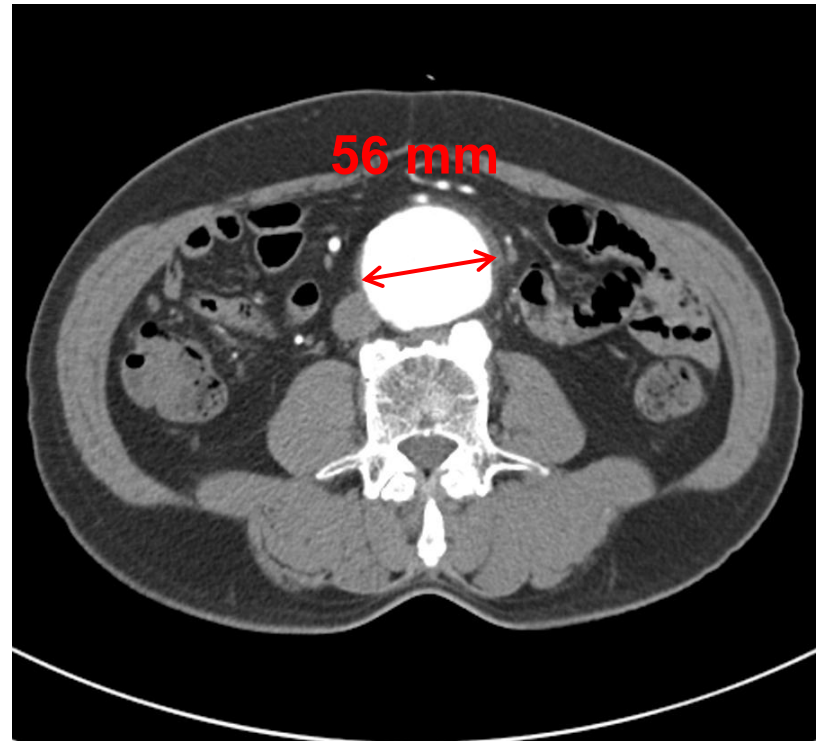
CT Angiography



CT Angiography



CTA one year ago



CTA at the presentation

Should We Repair AAA in this patient ?

Yes

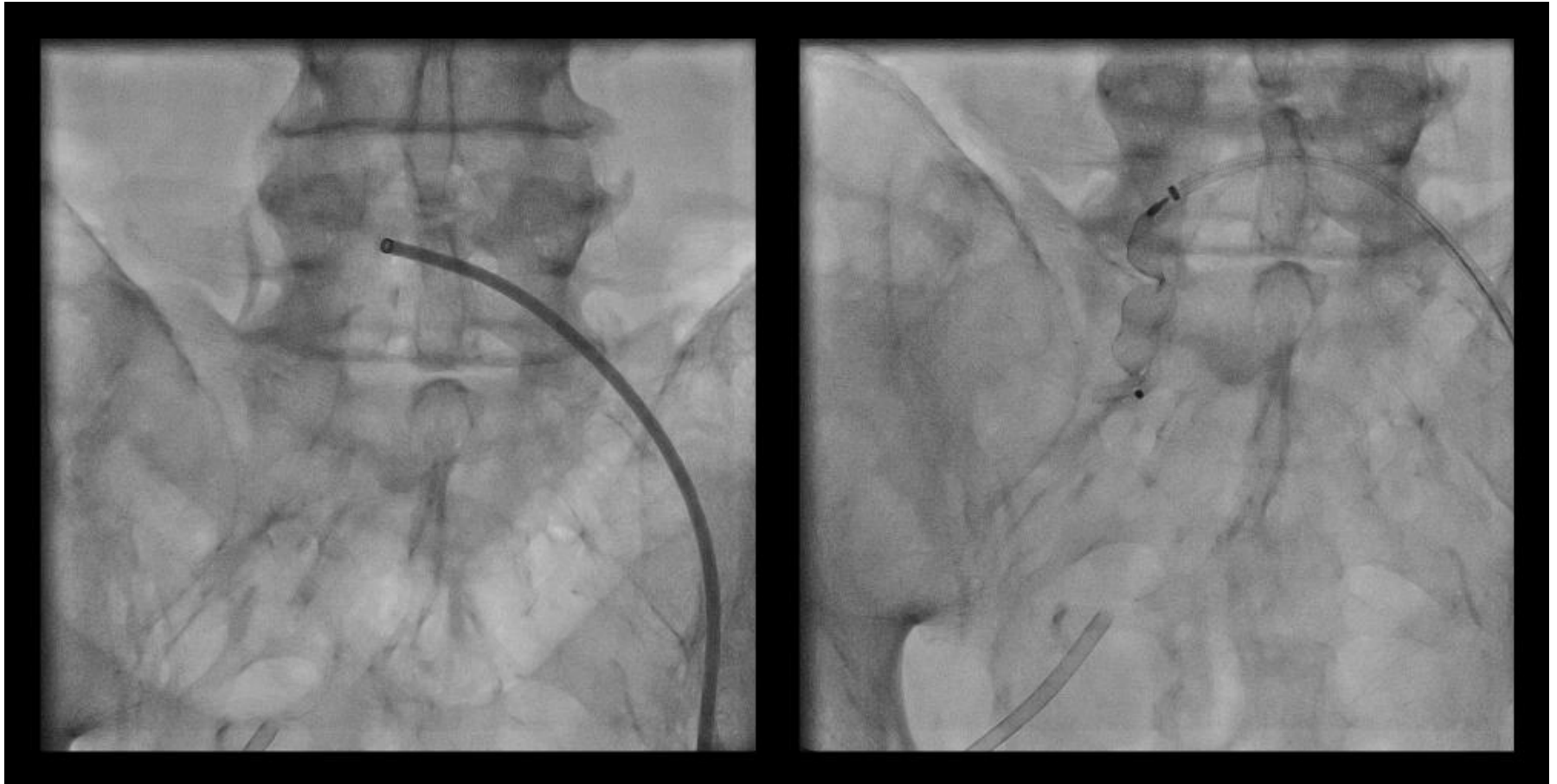
- **Rapid enlargement of aneurysm**
- **Large aneurysm (5.6 cm in diameter)**

Surgical or Endovascular Repair

Aortography



Rt. Internal Iliac Artery Embolization



Endovascular Aortic Repair



Main body: End Left limb: Endurant 16 x 124 mm

Endovascular Aortic Repair

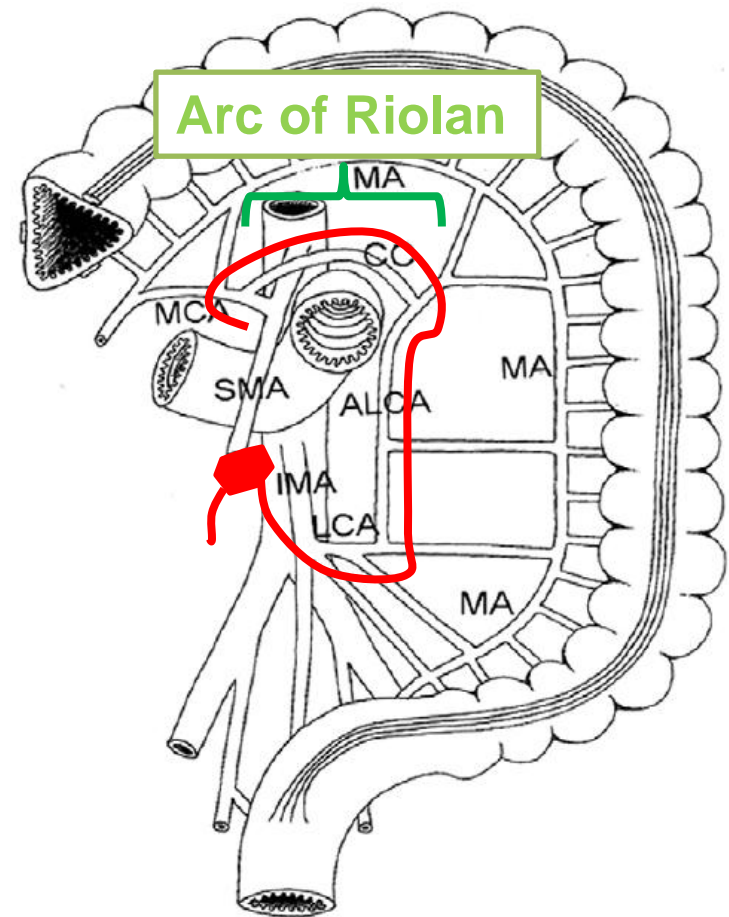
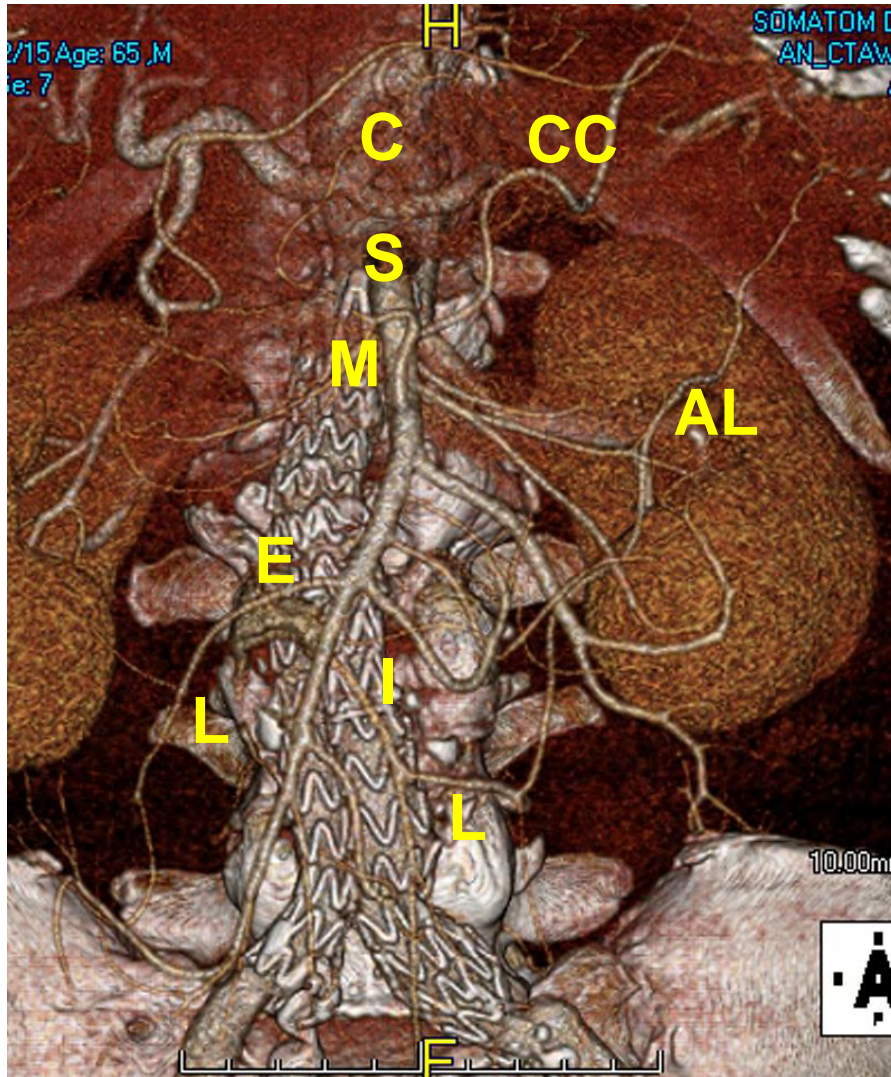


Main body: Endurant 28 x 145 mm
Left limb : Endurant 16 x 124 mm

Follow-up CTA (after 1 week of repair)



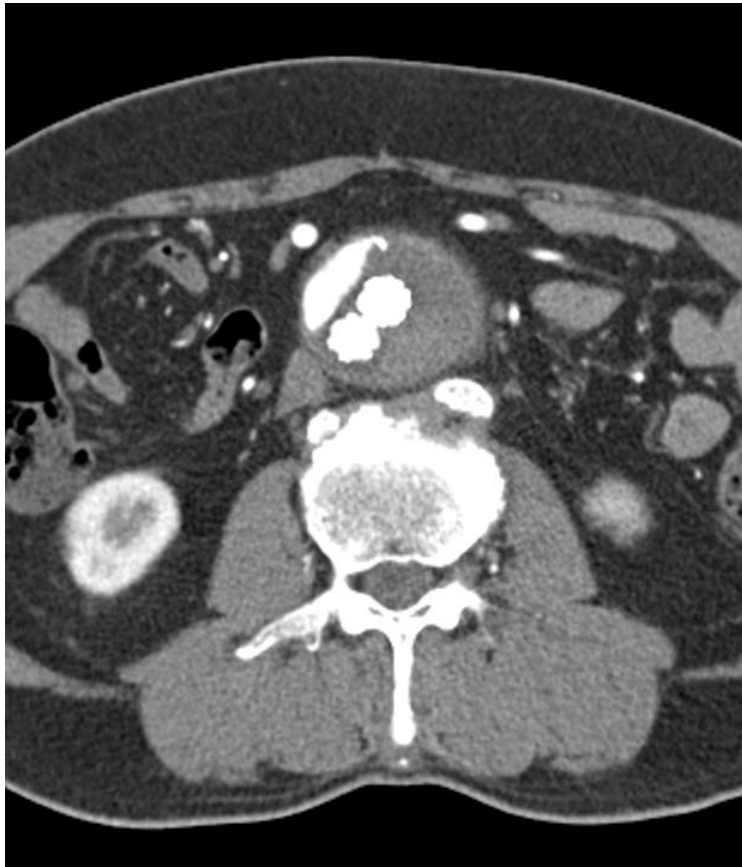
Follow-up CTA



Scheme of colic arterial circulation

Lange JF, et al. Am J Surg 2007;193:742

Follow-up CTA (After 5 weeks of repair)



After 5 weeks of repair

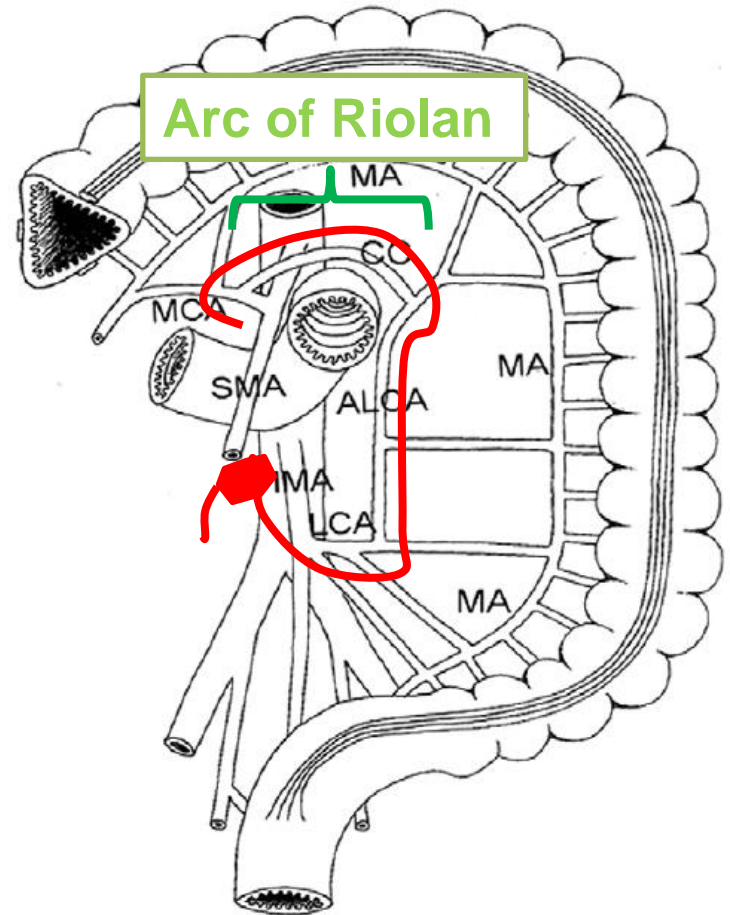
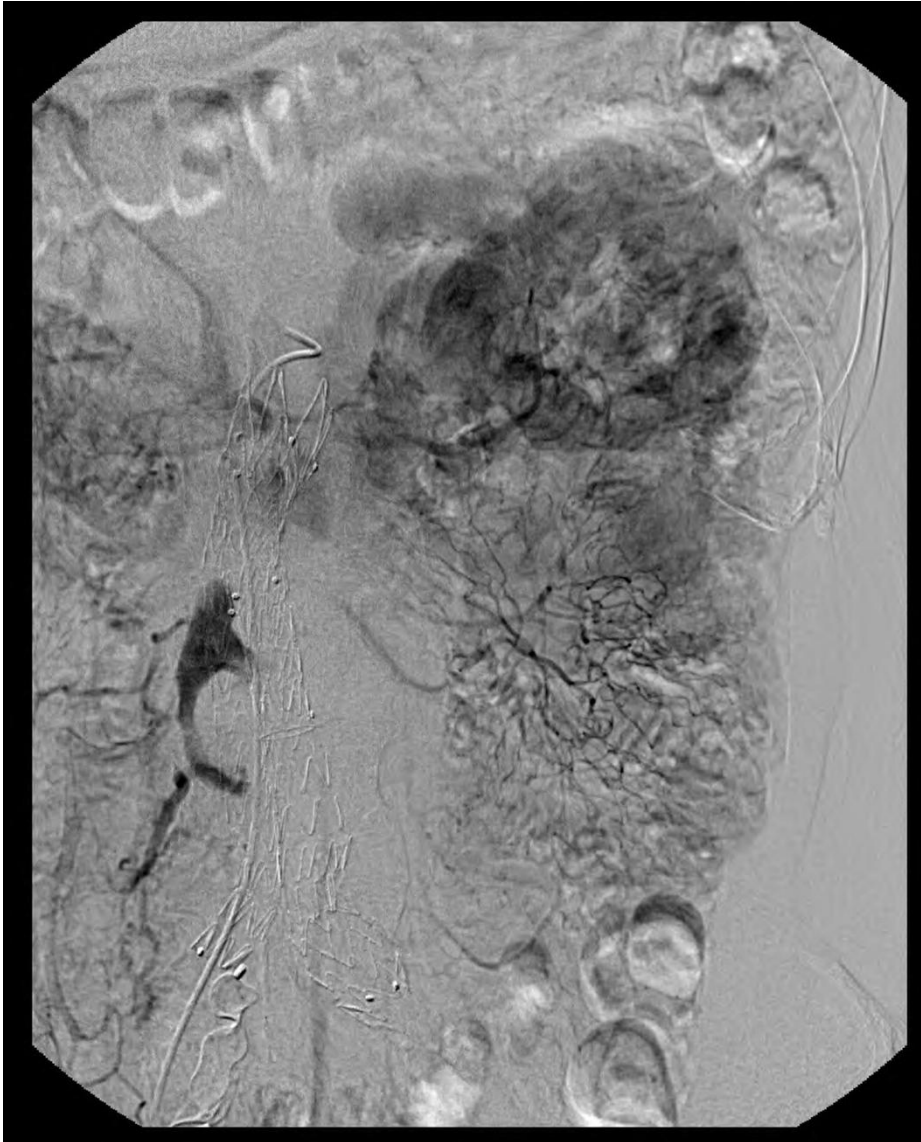


After 1 week of repair

How Should We Treat Type II Endoleak After EVAR in This Patient ?

- ✓ **Observation**
- ✓ **Embolization**
 - Tranarterial or Translumbar

SMA angiography



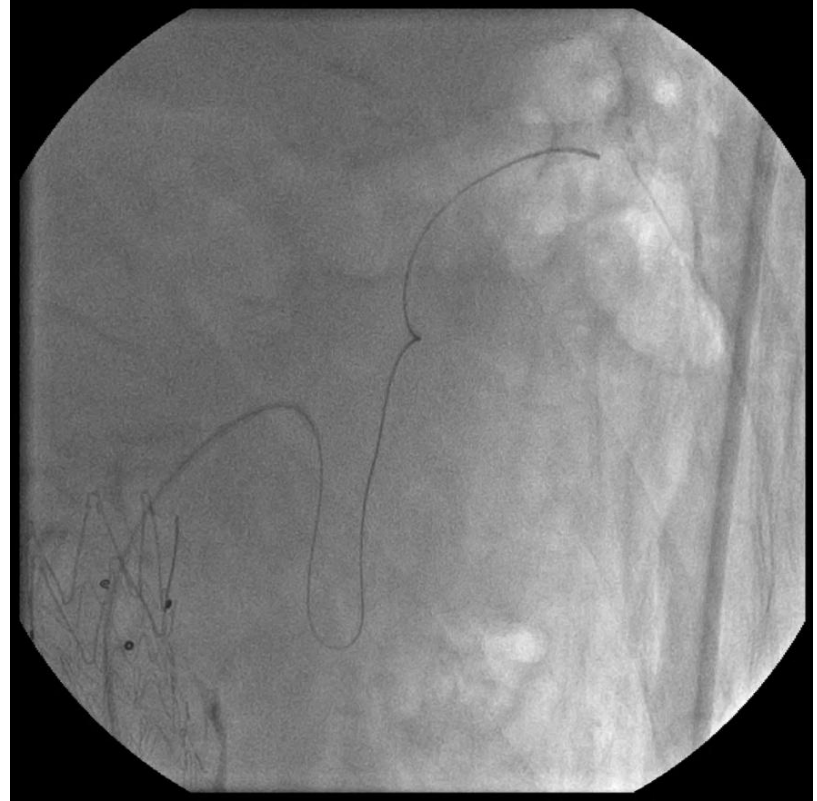
Scheme of colic arterial circulation

Lange JF, et al. Am J Surg 2007;193:742

Transarterial Embolization



5-Fr Cobra angiographic catheter (Cook)



Transend Guide Wire (Boston Scientific)
Progreat microcatheter (Terumo)

Transarterial Embolization



Transarterial Embolization



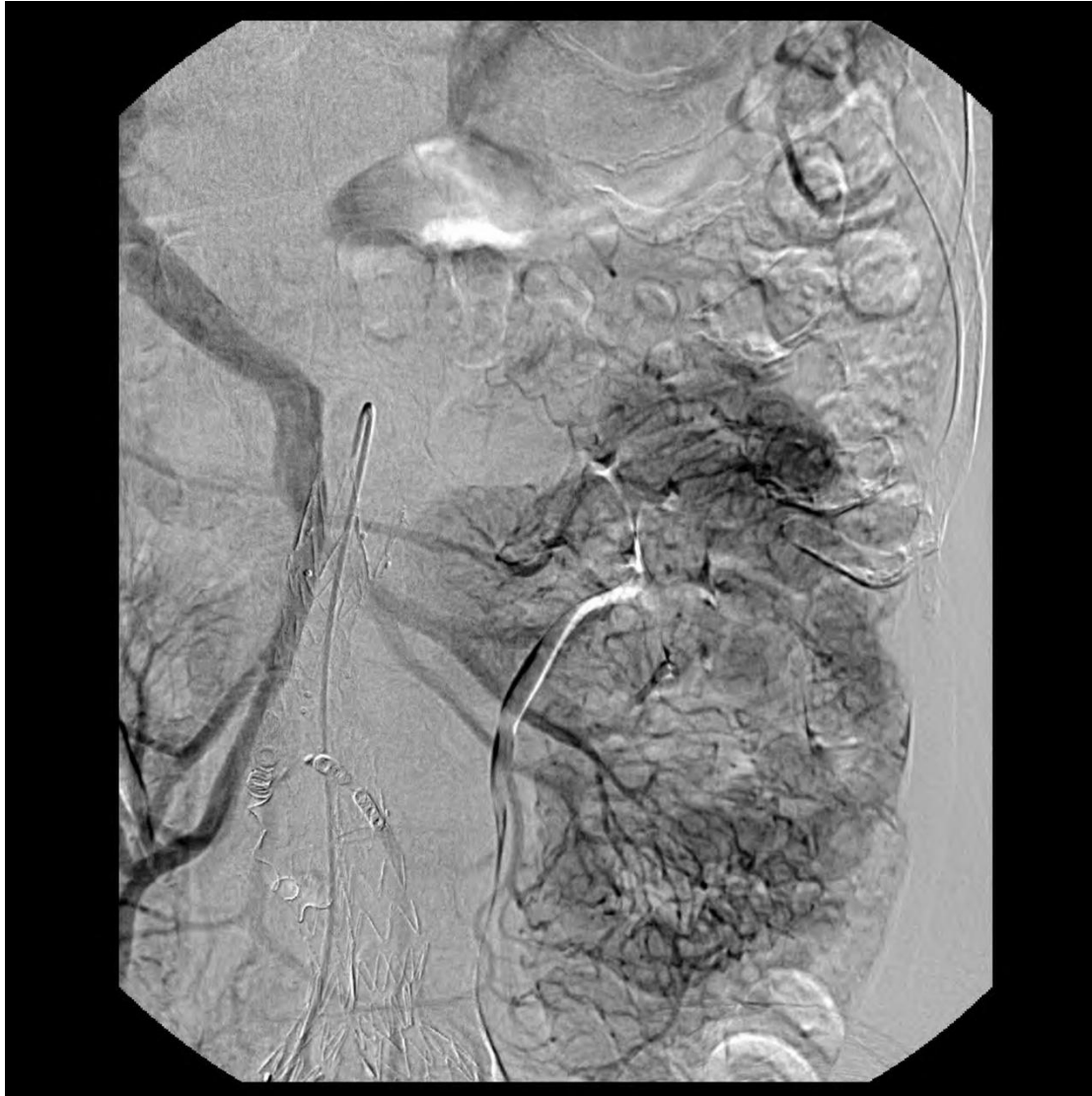
Embolization using 5 coils

Transarterial Embolization

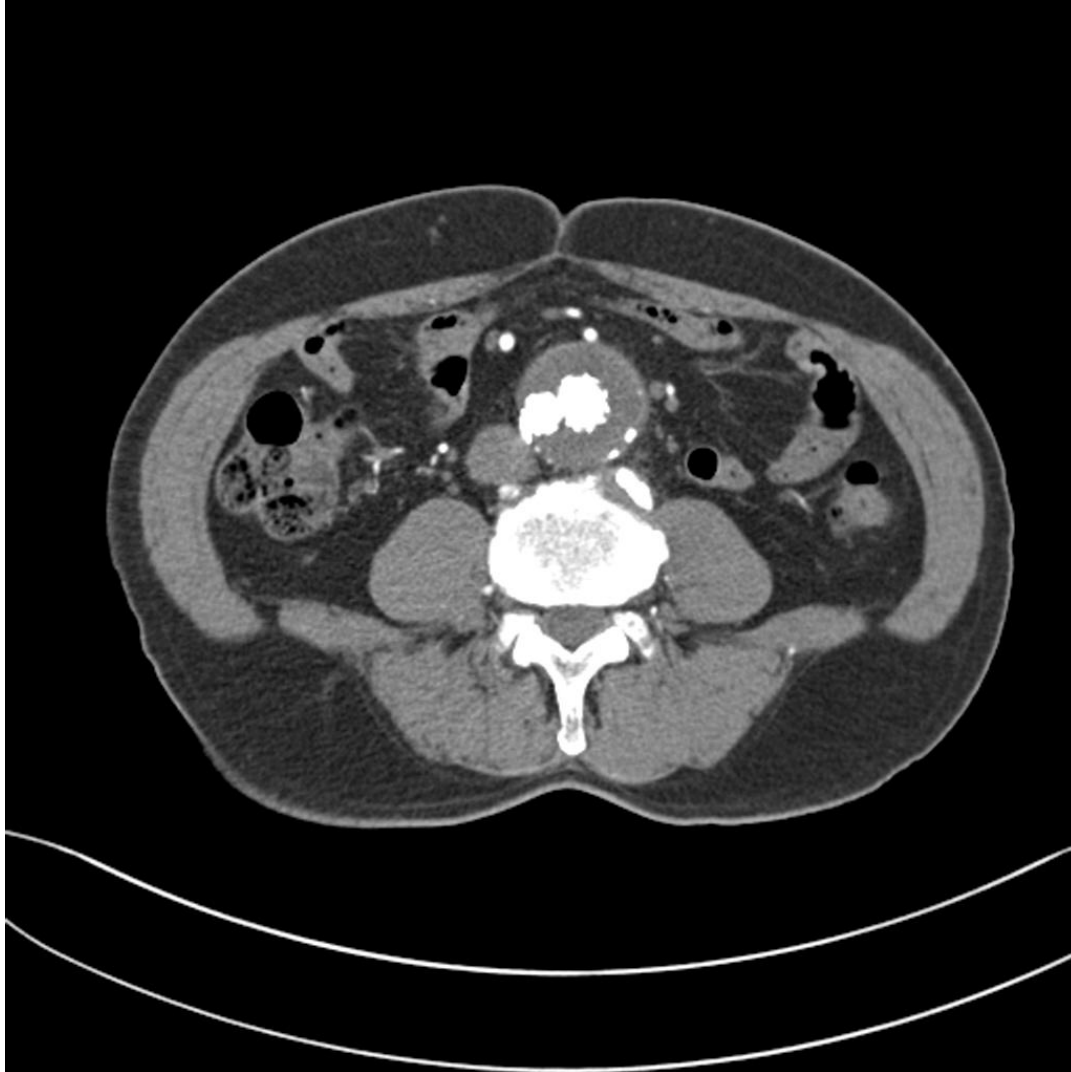
**Additional Embolization
using 33% glue
(1 ml lipiodol + 0.5 ml histoacryl)**



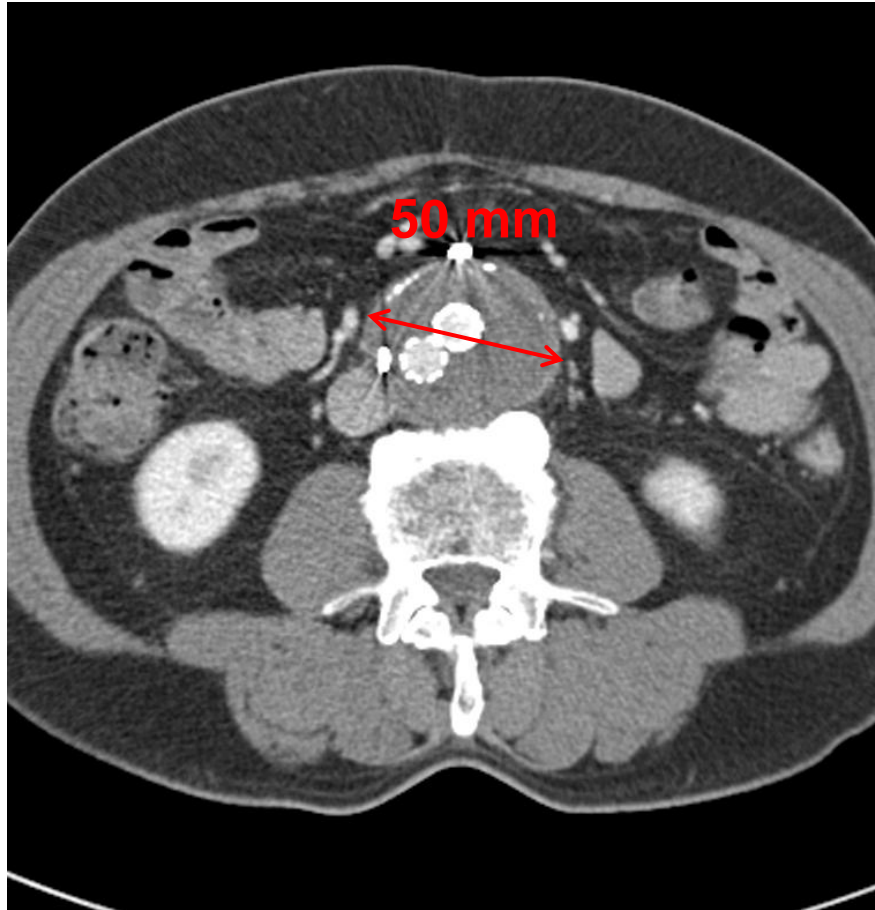
Final SMA angiography



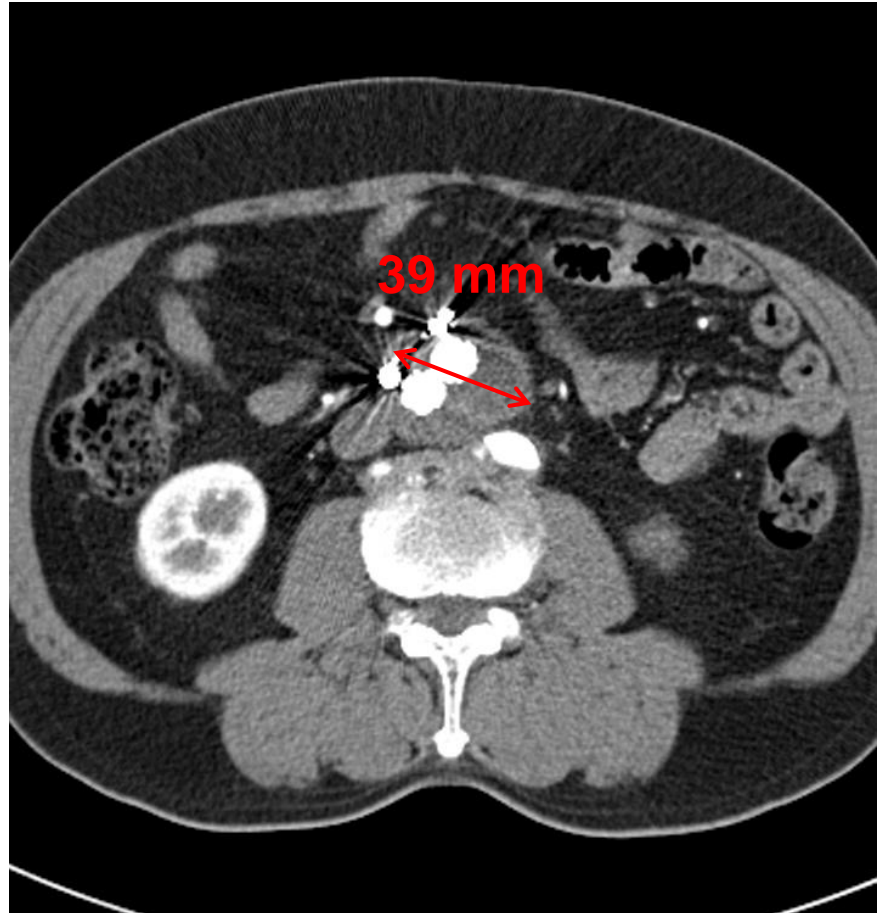
Follow-up CTA (after 3 weeks of embolization)



Follow-up CTA



After 3 weeks of embolization



After 7 months of embolization

Discussions (I)

- In this case, type II endoleak was occurred after EVAR, in which blood travels from IMA through SMA and arc of Riolan.
- Type II endoleak result in continued pressurization of the aneurysm sac and can be associated with aneurysm enlargement.

Discussions (II)

- Translumbal embolization was effective in 80% of the patients for resolving the type II endoleak.

Gorlitzer M, et al. Interact Cardiovasc Thorac Surg 2008;7:781

- However, transarterial embolization had a high failure rate because of multiple communicating arteries.

Solis MM, et al. J Vasc Surg 2002;36:485

Discussions (III)

- In this case, feeding artery of type II endoleak was the only IMA with CTA and direct arteriography and can be catheterized by using a microcatheter.
- Therefore, we experienced successful transarterial embolization of type II endoleak supplied from IMA through SMA and arc of Riolan.