Massive pulmonary embolization due to embolization for renal arteriovenous fistula with huge renal vein sac

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Disclosure

Speaker name: Shiro Onozawa

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
Case

• 31 years old female with left renal arteriovenous fistula causing the huge venous pouch due to renal biopsy 18 years ago.

• After the conference with urologists and radiologists, TAE was selected.
Renal AVF with huge venous pouch
AVP+ coils

AVP4
Then we started heparin administration just after the embolization, but...

At the next day, she became shock status during US Doppler.
After the several course of treatments, she developed heparin induced thrombocytopenia (HIT).

Left nephrectomy was performed.

Enhanced CT after recover shows massive PE and thrombus in the venous sac.
Complication after embolization

• Renal infarction, whole kidney embolization

• Non-target embolization

• Pulmonary arterial embolization: embolic material through the nidus or fistulae flows to pulmonary circulation

• Pulmonary arterial pressure elevation due to ethanol*

*Radiology 2005; 235:1072–1077
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renal dysfunction after nephrectomy

• Cardiovascular events (n=1331) : 1-, 5-, 10- year 5.5%, 9.9%, and 20.2% for partial nephrectomy 8.7%, 15.6%, and 25.9% for radical nephrectomy (HR 0.57, 95% CI 0.34–0.96; p = 0.03)¹

• 3-year probability of freedom from new onset of GFR <60 mL/min was 80% after partial nephrectomy and 35% after radical nephrectomy (P<0.001, HR 3.82 [95% CI 2.75–5.32])² (n=662)

1. EUROPEAN UROLOGY 2015: 67 ; 683-689
Complication vs CRF

• There is only one literature similar to this case with 5cm venous sac. Anticoagulant was successful for this case\(^1\).

• Surgical nephrectomy (or total renal embolization) might be better for AVF patients with huge venous sac.

Conclusion

• Huge venous sac caused severe pulmonary thromboembolism and huge thrombus in venous sac.

• Surgical intervention should be considered in these cases.
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