

주최·주관 대한심장혈관흉부외과학회

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2024. 10. 31 (Thu) - 11. 01 (Fri) 여수 엑스포 컨벤션센터



Emergency endovascular rescue and Redo Surgical repair in Relapsed Tracheo-Innominate Fistula patient

- Tracheoinnominate fistulas (TIFs) are life-threatening complications most frequently described as occurring after tracheostomy.
- We present the successful management of this lethal complication using Combination of endovascular and surgical approaches and inter-professional multi team approach

- A 57-year-old Rh-negative AB blood type female patient presented with massive bleeding from a tracheostomy site.
- She had a history of intracerebral hemorrhage (ICH) and hypoxic arrest 7 months prior, leading to a vegetative state.
- Three months ago, she developed a tracheo-innominate fistula, which was surgically repaired through sternotomy with a revision tracheostomy.
- On arrival at the hospital, the patient was experiencing continuous massive bleeding and CT showed Relapsed Tracheo-Innominate Fistula(Fig1).

- In first operation, due to the unavailability of Rh-negative AB blood and the risks associated with redo surgery, an endovascular approach was chosen. An S&G stent graft (12mm-40mm) was inserted into the innominate artery (Fig 2), successfully stopping the bleeding.
- However, 30 days later, the patient developed fever and a change in condition, and on the 36th day, massive hemoptysis recurred and arrest occurred.
- Post ROSC in 5 min, 2nd emergency operation using endovascular repair was proceeded
- Type Ib endoleak was identified, and further endovascular repair was performed, including RSCA OS embolization using an Amplatz plug and innominate-RCCA stent graft insertion(Fig 3).
- Finally, Given the ongoing infection and high risk of recurrent bleeding, innominate artery division was performed, along with LCCA to RCCA to RSCA bypass due to the poor condition of the carotid vessels (Fig4,5)
- The tracheal wall defect was repaired using a pectoralis major myo-cutaneous flap and revision tracheostomy was performed by Head and Neck surgeon.(Fig6)

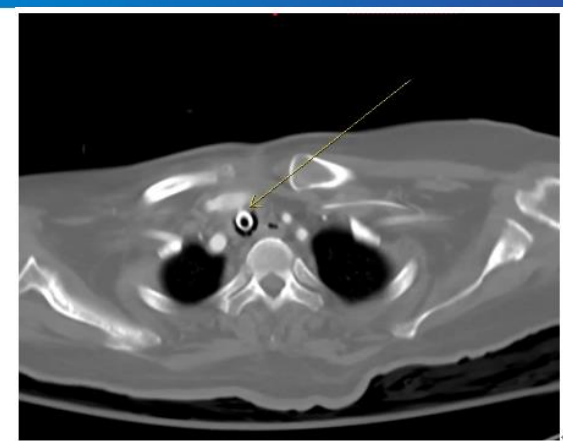


Figure. 1. Preoperative Thoracic Aorta CT showed Tracheo-Innominate fistula

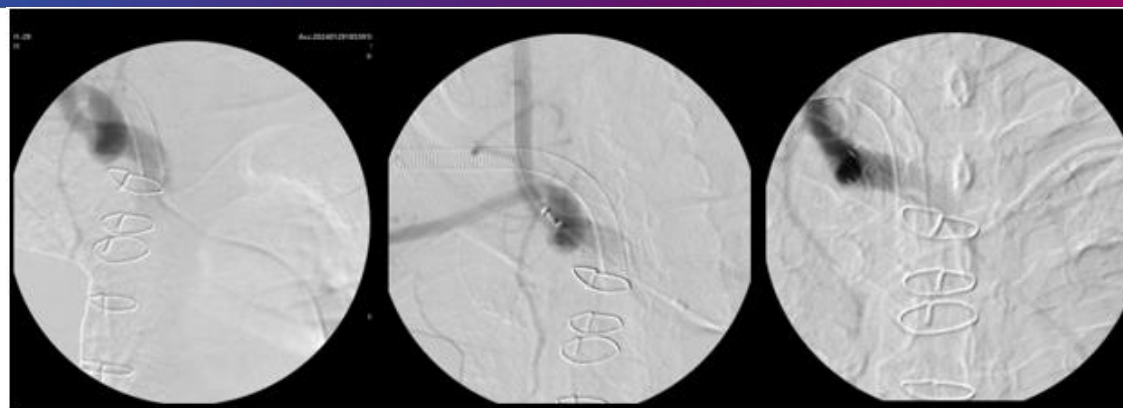


Figure. 2. Innominate stent graft insertion using S&G stent graf (12mm-40mm)

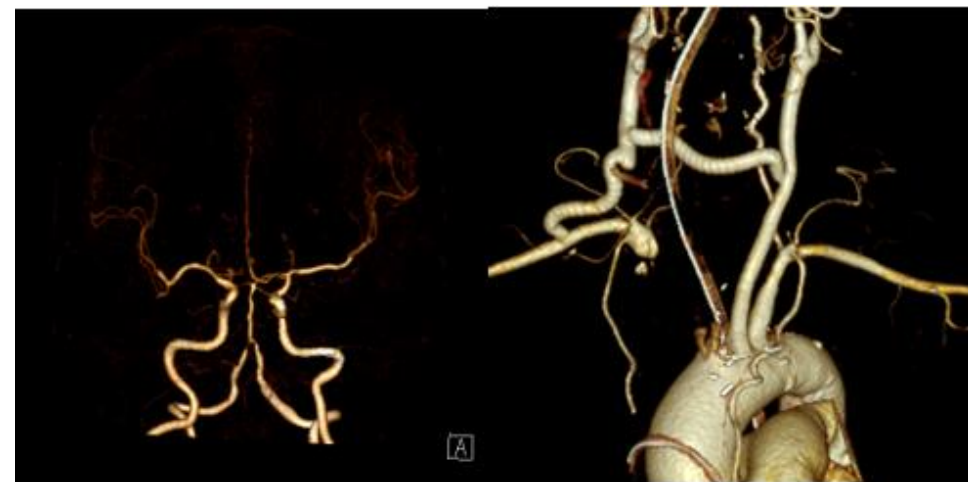


Figure. 4. Pre-operative Carotid CT and Postoperative LCCA-RCCA-RSCA CT



Fig6. Revision tracheostomy c myo-cutaneous flap Photo

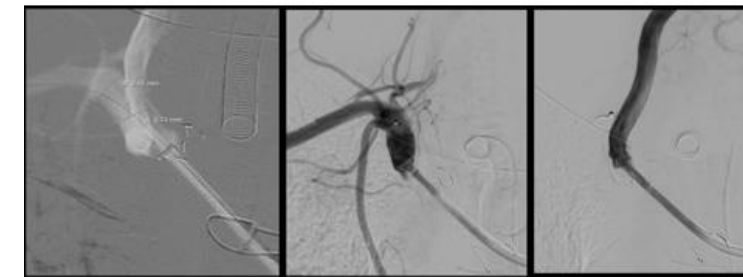
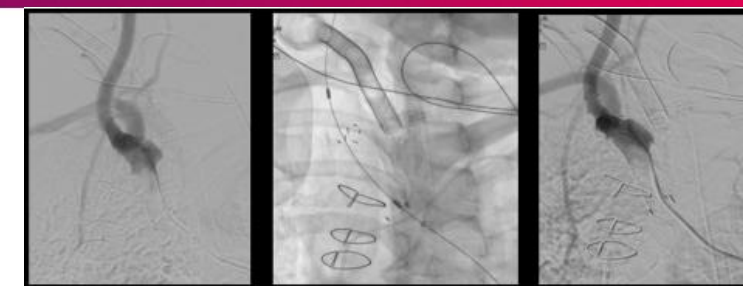


Figure. 3. Innominate -RCCA stent graft insertion and RSCA OS embolization

- Innominate primary closure in trachea- innominate fistula should be avoided due to the high risk of recurrence
- Endovascular approach can be used as a bridge to temporize the emergency situation, allowing time to resuscitate and stabilize the critically ill patient.
- Open surgical repair with innominate division should then be performed in the future in an elective to semi-elective manner.