

## Application of Middle meningeal artery embolization for hemorrhagic conditions of intracranial dura

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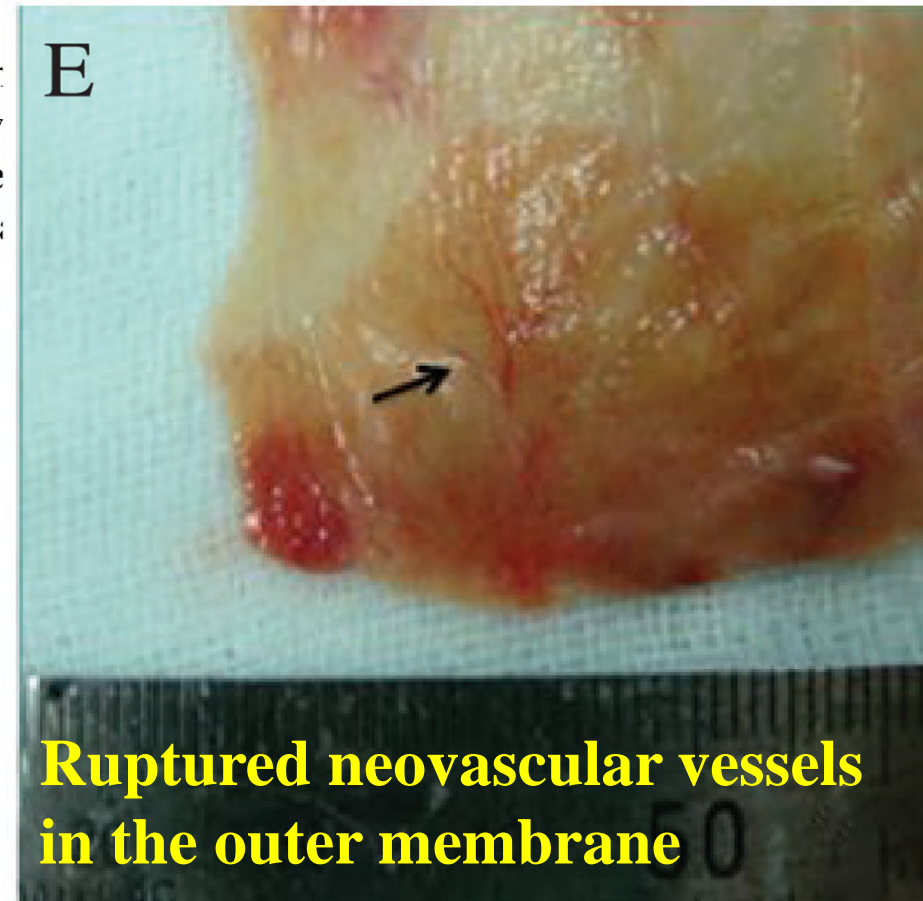
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본 발표는 상업적인 이해관계가 없음을 알려드립니다

# Introduction

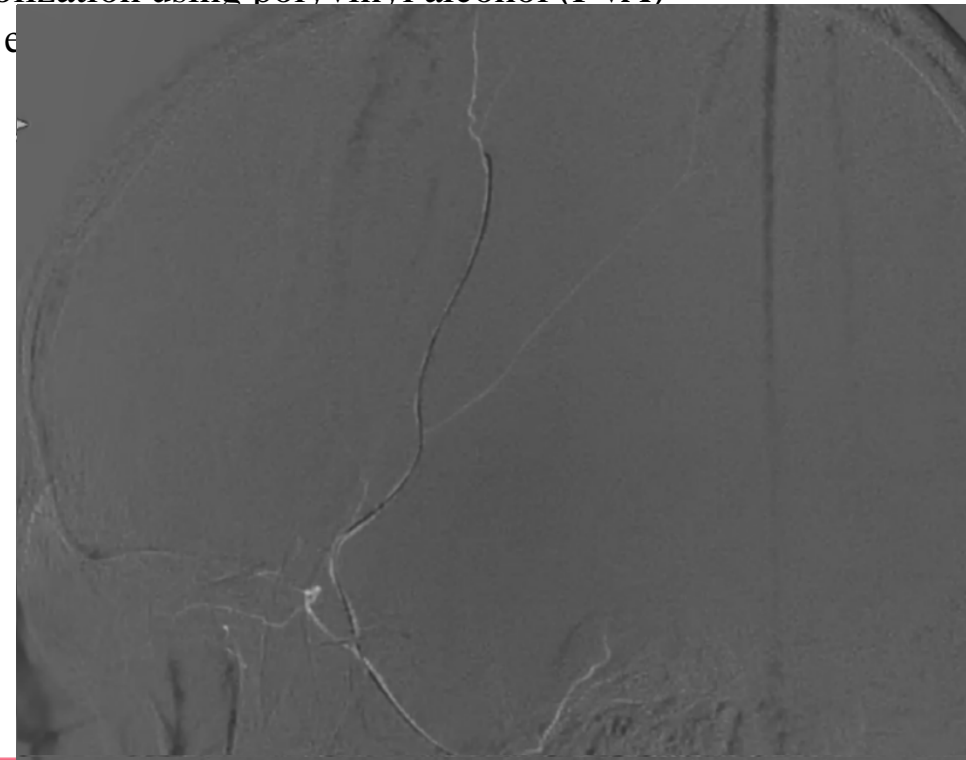
- The recurrence of chronic or subacute subdural hemorrhage drainage has been the major concern. Although several recurrence have been proposed, no definitive guide. Occlusion of the middle meningeal artery (MMA) is proposed for preventing SDH recurrence.



**Ruptured neovascular vessels  
in the outer membrane**

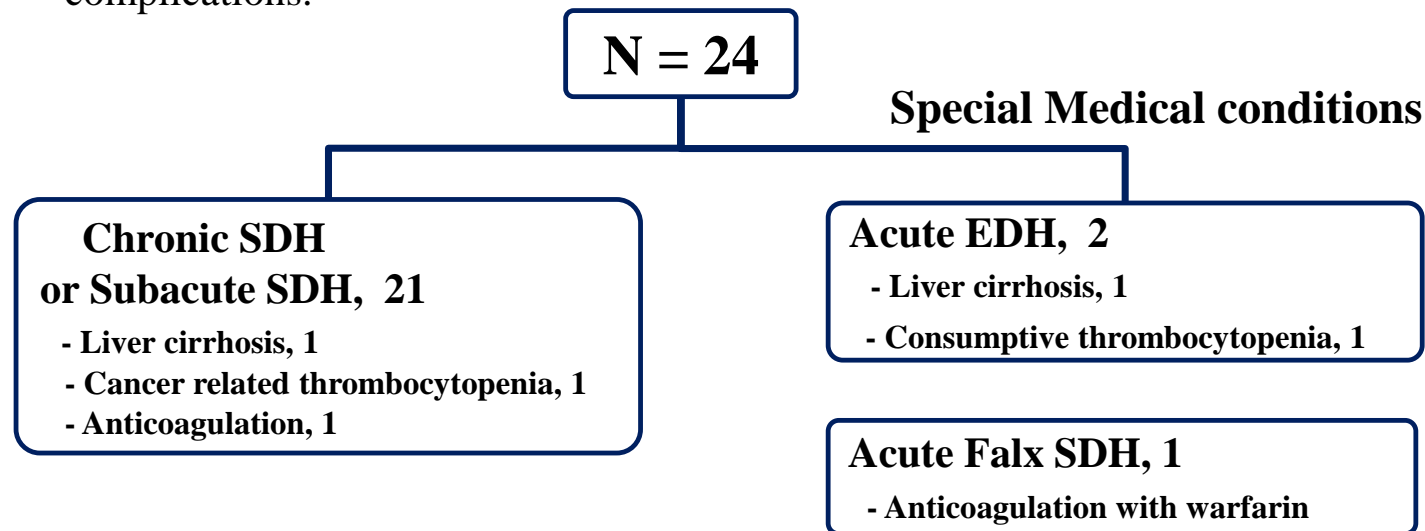
# Methods Material

- Retrospective review of patients who had hemorrhagic conditions of the intracranial dura from January 2015 to March 2022 was performed. The study included patients who underwent middle meningeal artery (MMA) embolization using polyvinyl alcohol (PVA) particles for recurrent SDH and for the control of other specific medical conditions.



# RESULTS

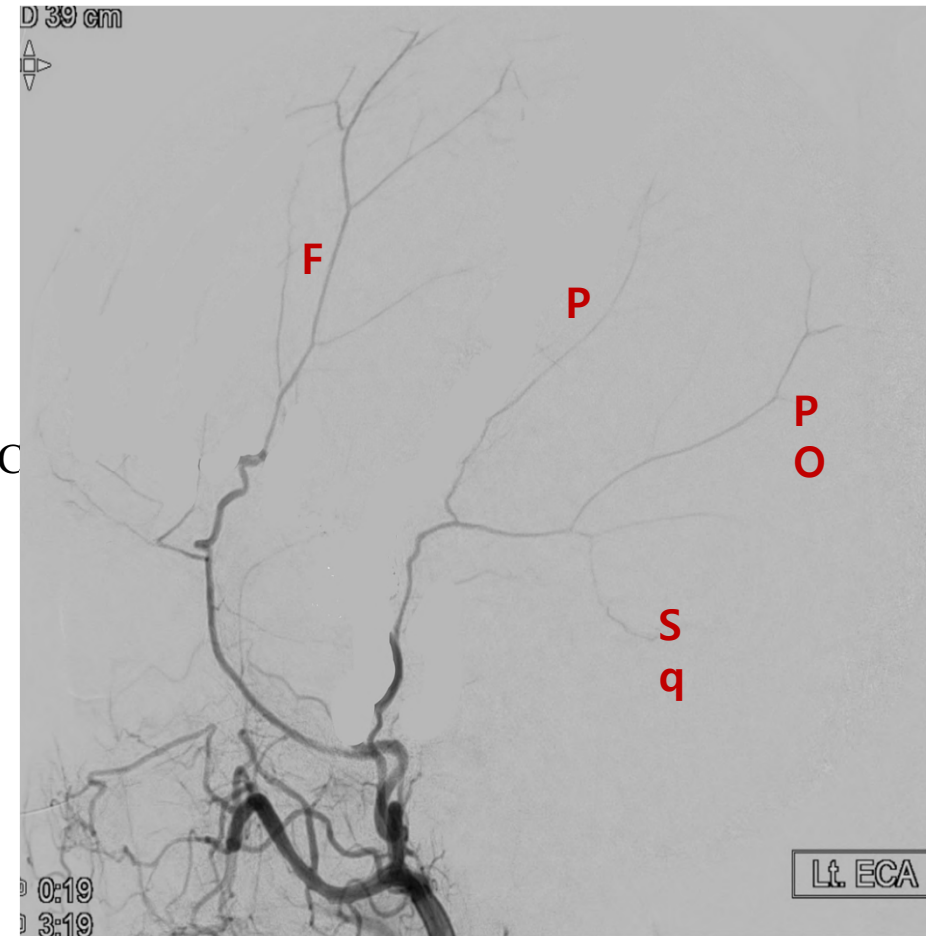
- A total of 24 patients were included in the study. A median age was 72 [range 50 to 86 years]. Among them, 21 patients had recurrent chronic or subacute subdural hematoma (SDH). Two patients presented with acute epidural hematoma, one with liver cirrhosis and the other with consumptive thrombocytopenia. One patient with acute falx SDH who had an anticoagulation was included. The recurrence after surgical drainage with MMA embolization was observed in two cases. Three cases of MMA dissection occurred as complications.



## Chronic SDH or Subacute SDH, 21

- Liver cirrhosis, 1
- Cancer related thrombocytopenia, 1
- Anticoagulation, 1

- Previous Burr hole trephination(BH)
  - 1 time 16
  - 2 times 4
  - 3 times 1
- 1 Branch embolization 12
- 2 Branch embolization: 9
- Recurrence after BH + MMA embolization → 2 C
  - (2 more MMA embolization + BH)



- **MMA dissection in 3 cases**
  - Occlusion using detachable coils
- **To avoid unnecessary complication**
  - Selective angiography should be done gently.
  - Repetitive selective angiography during embolization





# CONCLUSIONS

- MMA embolization combined with surgical drainage is a safe treatment of choice for recurrent subdural hematoma (SDH). However, it requires selective angiography with careful catheterization to avoid unnecessary complications.