

Don't aspirate;  
the evidence is not enough!

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The discussion started...

TAPAS : Thrombus Aspiration  
during Primary Percutaneous  
Coronary Intervention

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*Many thrombectomy or aspiration trials were  
negative until TAPAS*

Meta analysis online published  
Circulation January 26 2010  
S Rinfretv

- 21 trials; 4299 patients
- Thrombectomy significantly reduced the likelihood of no reflow and improved the ST-T resolution.
- Treatment had no significant effect on either death or the composite of death/MI/or stroke at 30 days.

Aspiration does not decrease mortality or otherwise improve clinical outcome, but increases procedure time and costs

EMERALD (Enhanced Myocardial Efficacy and Removal by Aspiratin of Liberated Debris)

TAPAS (Trombus Aspiration during Primary Percutaneous Coronary Intervention).

- Both studies used same catheter
- EMERALD distal protection.
- EMERALD better capacity of material retrieval.
- EMERALD mortality 3.4% versus 3.3%
- TAPAS mortality 3.6 % versus 6.7%

## Horizons sub study (post-hoc, not designed for evaluation of aspiration catheters)

- No difference in mortality between thrombus aspiration and conventional way.
- Stroke rate at 30 days 1.6% (aspiration) versus 0.4%.
- One year 1.9% versus 0.8% ( $p=0.006$ )
- Also a higher rate of stent thrombosis between 30 days and one year.

# Meta analysis European Heart Journal 2008 September 23

- 30 trials; 6415 patients
- Results mainly driven by TAPAS
- 7 strokes in aspiration studies versus 1 with PCI alone.
- 9 strokes in mechanical thrombectomy (7 versus 2)

Why were so many studies negative?

The believe (religion) is based on one  
single center study



It is questionable whether the results of one highly experienced center can be translated to the general world

- A strict protocol was maintained during the procedure.
- With direct stenting after thrombosuction whereas the conventional group underwent balloon angioplasty that might enhance distal embolization

- Stroke is a serious concern
- Aspiration of thrombus and then pulling back the catheter over a length of 125 cm may cause migration of material

What do the catheters do?

Increased vessel damage?

With the need of longer stents?

Can it be that simple: yes or no













