

ANTICOAGULANTS VS. ANTIPLATELETS FOR CAROTID ARTERY DISSECTION?

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When neurologists in any country are polled for their choice of antithrombotic drug in patients with acute cervical artery dissection (CAD) most (60-80%) vote for anticoagulants. This is an intuitive, almost reflex, choice by many physicians.

When the delicate intima tears by trauma, the arterial bloodstream jets into the media, sometimes returning to the mainstream of arterial flow, but invariably producing some destruction of the arterial lining and leaving dangerous fresh luminal thrombus. This tear can only mend acutely by fresh and fragile blood clot sealing the internal rupture, and later organising into a seal for permanent repair. Sometimes during surgical repair after dissection, scars of previous healed asymptomatic dissections are found in contiguous arterial segments. Any resulting embolic stroke must therefore originate from the clot breaking loose into the arterial blood stream and being carried to the brain. Most of these embolic events occur in the first few hours after intimal rupture when the clot is fresh and fragile.

Therefore, the best hope for preventing such embolism is by urgently employing the most powerful antithrombotic available, anticoagulants, in this very acute stage. Arteries do not tear without trauma. 'Spontaneous' dissection does not exist, and if the clinical history is taken carefully, a previous traumatic neck event is invariably discovered, such as sudden neck movements in sport or chiropractic manipulation. These events may occur weeks or even months before and be forgotten. One autopsy study, in a patient surviving hanging but later dying acutely from a stroke, revealed fresh clot over permanent scarring of the artery four years after the suicidal attempt.

Once the acute stage has resolved, (usually within 24 hrs), the risks of anticoagulants must be measured against the relatively innocuous alternative, antiplatelet agents. In our present ongoing UK randomised multicentre trial of anticoagulants vs antiplatelet agents (CADISS - cervical artery dissection in stroke study), some investigators refused to join stating that the only ethical treatment in the acute stage is anticoagulants. In our study, the patients must be randomised within 7 days of the event, but this may be comparable to closing the stable door after the horse has bolted, if the real danger period is in the first few hours, not even days, after the dissection has occurred.

In a significant minority of patients follow up angiography shows residual 'irregularities' of the lumen or even aneurysms, presumably scars which may later resolve, but also may form a nidus for future embolic events. These, and in patients where permanent or even newly evolving aneurysms are found, may also benefit from antithrombotic treatment (either anticoagulants or antiplatelet agents) in the long term.