Letter to the Editor

Anticoagulant and Antithrombotic Agent Use in Intracranial Aneurysm Treatment Call for a Consensus

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Dear Sir,

Endovascular treatment is now the accepted first line treatment for a significant proportion of intracranial aneurysms. Improvements in fluoroscopic equipment and the quality of guide-catheters, microcatheters and microwires have led to improvements in the safety and success rates of endovascular procedures. Thromboembolic complications, however, remain the largest group of complications associated with endovascular treatment of intracranial aneurysms occurring in 2.5 – 12% of procedures¹⁻⁴, with asymptomatic thromboembolic events estimated to occur in up to 61% of procedures^{5,6}. Techniques to reduce thromboembolic complications would therefore significantly improve the safety of endovascular aneurysm treatment.

There is no consensus on the best anticoagulation and antiplatelet administration protocol. For instance, while there is universal acceptance of the need for heparin administration, some practitioners will administer it soon after making the femoral puncture⁷, while others only administer heparin after deployment of the first coil when treating acutely ruptured aneurysms⁸. The overall rates of intraprocedural thromboembolic complications appear to be similar among the different groups suggesting that it may be other factors such as meticulous technique with continuous flushing and not necessarily the heparinisation itself which are important in reducing thromboembolic complications.

Similarly there is wide variation in the use of antiplatelet agents⁹⁻¹¹. In the only systematic review so far, Qureshi et Al found that most of the currently existing prophylactic regimens were either derived empirically or are based on regimens reported in the coronary literature. A comparative evaluation of the various strategies was not possible but it was found that the frequency of thromboembolic events where the patients were treated with post-operative heparin (5.9%) or aspirin (6.4%) was lower than that in studies where there was not such use (9.3% and 8.9% respectively)⁸.

Anticoagulation and antithrombotic treatments carry an inherent risk of complications of which the most important in the context of acutely ruptured aneurysms is aneurysm re-bleed. Their use in any situation therefore must be based on sound research evidence of their benefit to patients presenting with subarachnoid haemorrhage. The authors feel this evidence is lacking and that it is time for the neurointerventional community to make a concerted effort to achieve a consensus on best practice in thromboembolic complication prevention. A simple starting point would be to carry out an independent comparative audit of neurological outcomes and rates of thromboembolic complications for patients from different centres known to have differing anticoagulation protocols. The ideal would be of course to conduct a randomised controlled trial but this is likely to be pragmatically impossible to implement.

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