

Importance of Anticoagulants and Antiplatelet Agents in Spine Surgery

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Editorial

Perioperative management of anticoagulants and antiplatelet agents is based on a compromise between the danger of haemorrhage induced by maintaining (or substituting for) them and thus the danger of thrombosis if they're discontinued. The haemorrhage risk in major spinal surgery is clear (50% to 81% incidence of transfusion), and thus the incidence of postoperative symptomatic spinal hematoma varies between 0.4% and 0.2% relying on whether low-molecular-weight heparin (LMWH) is prescribed postoperatively. The French Health Authority, in 2008, published guidelines on the management of patients treated with vitamin K antagonists. Treatment could even be stopped without preoperative replacement in certain cases of fibrillation or venous thromboembolic disease; otherwise, preoperative replacement by curative dose unfractionated heparin (UFH) or LMWH is usually recommended, with withdrawal early enough to avoid preoperative bleeding. Postoperative care should appreciate of haemorrhagic risk following surgery.

The management of patients treated with antiplatelet is delicate, as maintenance is preferable in most of the situations during which they're prescribed (bare or active stenting, or secondary prevention of myocardial infarction, stroke or peripheral ischemia), although they're vulnerable to increase the danger of perioperative haemorrhage, especially when associated to antithrombotic prophylaxis. If surgery cannot be performed under treatment continuation, the interruption should be as short as possible. New guidelines are presently being involved under the auspices of the French Health Authority. In both kinds of treatment, the strategy should be jointly determined by surgeon, anaesthesiologist and cardiologist, to optimize individualized care taking account of each party's requirements, with the patient within the central role the chosen strategy should be clearly stated within the patient's

file. Perioperative management of anticoagulants and antiplatelet agents may be a concern shared by anaesthesiology and surgery teams.

The latter face the danger of haemorrhage induced by an aggressive procedure and enhanced by maintenance of treatment and by the danger of arterial or phlebotrombosis related to perioperative withdrawal. Spinal surgery covers a good sort of procedures, with varying associated haemorrhage risk precluding any single solution. The considerations discussed within the present article specialise in these various aspects with a view to recommending rational attitudes guided by the association of surgical and patient-based risks. Haemorrhage and thrombosis risk in spine surgery. The haemorrhage risk specific to spinal surgery seems to not be clearly assessed within the various attempted stratifications of surgical specialties. Orthopaedic and neurologic surgeries are respectively classified as moderate and high risk, but spine surgery isn't given a classification. Haemorrhage risk depends partly of the degree of blood loss, but also on the postoperative location of haemorrhage (spinal haemorrhage).

Blood loss ranged from 650 mL to 2839 mL in 900 patients undergoing arthrodesis surgery without preventive strategies for bleeding; the transfusion rate ranged from 50% to 81%. Most cases involved instrumentation, recognized in previous studies as an element of increased bleeding and wish for transfusion. Postoperative haemorrhage in 2507 patients undergoing spine surgery with antithrombotic prophylaxis ranged from 0% to 4.3% counting on the study. Four independent factors were identified as predictive of transfusion in 230 patients undergoing scheduled thoracolumbar surgery: age superior than 50 years, preoperative haemoglobin concentration inferior than 12 g/dL, superior than two levels of arthrodesis, and transpedicular osteotomy. By weighting each of those factors, the authors were ready to draw up a predictive score perfectly correlated with the amount of erythrocyte concentrates actually delivered.

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