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Editorial

Surgical Hemostasis and Topical Agents

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EDITORIAL

Hemostasis is that the act of restricting or stopping blood be due a damaged vessel or organ. Hemostasis may be a complex process whose function is to limit blood loss from an injured vessel. Four major physiologic events participate within the hemostatic process: vascular constriction, platelet plug formation, fibrin formation, and fibrinolysis. Although each tends to be activated so as, the four processes are interrelated in order that there's a continuum and multiple reinforcements.

A degree of haemorrhage may be a normal a part of most surgical interventions. Managing unanticipated or uncontrolled bleeding may be a vital skill for a surgeon to accumulate, in order that haemostatic manoeuvres become habit. It is crucial to attenuate blood loss intraoperatively to take care of the patient's physiology and to enable the surgeon to preserve a transparent field. Primary bleeding may arise during an operation or as a consequence of non-iatrogenic traumatic injury. Good hemostasis in surgery can provide multiple advantages to the patient, surgical team, and health care facility. Active and passive hemostatic agents are widely used for several years and have extensive history supporting effective and safe use during a big variety of surgical procedures.

The type of surgery, sort of bleeding, hemostatic agent availability, and patient characteristics will influence the selection of topical hemostatic agent that's employed by the surgeon. By actively participating within the coagulation cascade, active topical hemostatic agents are more ready to meet the standards of a perfect hemostatic agent in cases of oozing blood and minor bleeding during surgical procedures. Active agents are often used alone or together with passive agents. Familiarity with the products used to achieve hemostasis and their preparation can facilitate optimal use by surgical teams.

Topical agents are often effective as adjuncts to assist in hemostasis when bleeding isn't controllable with pressure application, vessel ligation, or electrocautery. Such adjunctive hemostatic treatments include topical gelatins, collagens, oxidized celluloses, thrombin and fibrin sealants, synthetic glues, and glutaraldehyde-based glues. Like the utilization of systemically delivered hemostatic agents, topical treatments also carry risks with their use, and their efficacy has not been extensively studied in large randomized, placebo-controlled prospective studies. The effective use of topical agents is very hooked in to the surgeon's experience or preference and their availability within the surgical setting.

When bleeding occurs, surgeons can use various hemostatic products to assist control it. These agents range from absorbable hemostats, like gelatins and collagens, through biologically active topical hemostats, like thrombin and combined agents, to systemically delivered agents, like coagulation factors used for more extensive bleeding. It depends also on the procedure and therefore the location of the bleeding, because it may sometimes be impossible to use mechanical or thermal techniques. In those cases, using topical hemostatic agents could also be useful. These agents are applied on to the bleeding site and should prevent continuous bleeding during the whole procedure and also within the postoperative period.

When talking about hemostatic topical agents, they will be divided into passive and active:

Passive: they supply a body around which platelets can aggregate so a clot can form. Collagen-based products interacting with blood promote platelet aggregation. They will be applied as a powder, paste or sponge. Cellulose-based products contain regenerated oxidized cellulose which initiates clotting via contact activation. Gelatins when held in situ swollen gelatin particles restrict blood flow and supply a stable matrix around which a clot can form.

Active: They need biological activity and participate directly within the coagulation cascade including thrombin or combinations of products containing thrombin. Because it appears at the last stages of the clotting cascade it's less vulnerable to coagulopathies.

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