Practice Pearl: Using 'Namazi Solution' for Decreasing the Formation of Bruises in Liposuction

Sir,

I read with interest the editorial entitled 'Liposuction and the cutaneous surgeon' published in the July–September 2013 issue of the journal.[1] In this article, the authors elaborate on the benefits of tumescent solution, including the decreased bruising and haematoma formation due to the compression on blood vessels by the large volume of the solution and the vasoconstrictive effect of the epinephrine.

However, despite using tumescent solution, bruising still represents one of the most common complications of liposuction,[2] being very distressing to the patients and limiting some of their social activities such as swimming.

In 2007, I suggested the use of a new tumescent solution, made by adding one ampoule of tranexamic acid (500 mg/5 ml) to it, for decreasing the blood loss at the recipient site of hair transplantation.[3] Hereby, I would like to suggest the use of this solution for liposuction as well, in order to decrease the rate and amount of bruises.

Tranexamic acid is a synthetic derivative of lysine that exerts its anti-fibrinolytic effect through the reversible blockade of lysine-binding sites on plasminogen molecules. Tranexamic acid is useful in a wide range of haemorrhagic conditions. It reduces post-operative blood loss in a number of surgeries, such as cardiac surgery with cardiopulmonary bypass, orthotopic liver transplantation and transurethral prostatic surgery, without increasing the risk of thrombosis.[3] In a very recent retrospective study, tranexamic acid use in bilateral total knee arthroplasty was associated with a significant reduction in peri-operative serum haemoglobin drop, without any venous thromboembolic events reported.[4]

Interestingly, the early administration of tranexamic acid to bleeding trauma patients reduces all-cause mortality without increasing the risk of vascular occlusive events. Indeed, the risks of arterial thrombosis and myocardial infarction appear to be reduced with this agent. Trauma and surgery are known to generate a systemic inflammatory response, characterised by systemic activation of fibrinolysis, coagulation, complement, platelets and oxidative pathways. This inflammation is associated with increased risk of thrombosis. It is speculated that tranexamic acid can exert anti-thrombotic effects through blocking the inflammatory and prothrombotic effects of plasmin.[5]

The usual evaluated intravenous doses of tranexamic acid, for example in orthopaedic surgery, range between 10 and 20 mg/kg or a fixed dose of 1-2 g.[6] Pharmacokinetic studies are needed to demonstrate

the maximum safe dose of tranexamic acid in case of megaliposuctions, which should be definitely higher than the above doses given the slow absorption of this agent from the liposuction site due to the vasoconstrictive effect of epinephrine.

As some bruises occur 24-48 h after surgery because of the loss of the vasoconstrictor effects of epinephrine, oral tranexamic acid may be prescribed during this period as well to decrease the amount of these late haematomas.

Given the above facts, I suggest using this novel solution in liposuctioning and also conducting further research on this subject, for example seeing if a standard solution and tranexamic acid given IV can produce similar results or not.

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