



Tumescent anaesthesia : Role in Dermatology

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ABSTRACT

Tumescent anaesthesia is a newer technique of local anaesthesia. Through this article, the author describes its use in dermatology.

KEYWORDS : tumescent anaesthesia, dermatology, lignocaine

It is one of the type of local anaesthesia (LA). It is a relatively newer technique of LA. In this technique a large amount of lignocaine which is in a much larger diluted amount is injected in a subcutaneous manner. Due to this subcutaneous infiltration, the target tissue becomes swollen and firm (tumescent) and it gives certain favourable effects for some procedures.

Tumescent anaesthesia can be used for the following procedures: dermabrasion, skin grafting, liposuction, hair transplant procedure, face lift, carbon dioxide laser full face resurfacing and large cutaneous excision and repair.^[1]

The constituents for this LA include normal saline (1000ml), 1 % lignocaine (50 ml), adrenaline (1: 1000) 1 ml and sodium bicarbonate (1meq/L) 2.5 ml. The effective concentration for lignocaine is 0.05%. The onset of action of this LA occurs in 10-15 minutes. This procedure is painless as the injection is given subcutaneously and in subcutaneous tissue free nerve endings are few and the tissue is lax and so is easily distensible, causing less pain. In addition to this, it has few more advantages. It causes the target tissue to swell and thus better

visualisation, lesser chances of damage to deeper structures due to the cushioning effect by this LA. As the injection is given subcutaneously, the dermal tissue remains unaltered. The amount of anaesthetic required is much less and so the chances of any systemic side effects are also less.

Tumescent anaesthesia has been widely used for liposuction. A subcutaneous injection containing lignocaine and epinephrine is used. Diluted epinephrine is infiltrated in subcutaneous tissue which is relatively avascular. Here it causes prolonged vasoconstriction which leads to decrease in the rate of systemic absorption of lignocaine.^[1] 35-55 mg /kg body weight of lignocaine can be used in tumescent anaesthesia^[2] and this dosage provides anaesthesia for as long as 10 hours.^[1] But this procedure is not entirely safe. It can be life threatening too.^[3]

Anaesthetist should know the likely risk of lignocaine toxicity and drug interactions during the tumescent liposuction procedure.^[4] Other complications associated with this procedure are pulmonary embolism, pulmonary oedema, fluid imbalance and hypothermia.^[5]

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