LETTERS TO THE EDITOR

Sub-Tenon's infiltration of local anaesthetic with hyaluronidase

EDITOR,—Stevens has recently described local anaesthetic delivery into the sub-Tenon's space as an alternative to the conventional retrobulbar and peribulbar approaches for ophthalmic anaesthesia. Using a 50:50 mixture of lignocaine 2% and bupivacaine 0.5% without hyaluronidase he obtained effective anaesthesia in all of his 50 patients. However, 46% required an additional Van Lint facial block.

I have now used the same method, employing a 21 gauge cannula to deliver the anaesthetic in 24 patients undergoing cataract surgery. Lignocaine 2% (5 ml) and bupivacaine (Marcain) 0.5% (5 ml) were mixed with 1500 IU of hyaluronidase (Wyeth). Three ml were delivered in the manner Stevens describes. All patients had satisfactory anaesthesia and akinesia, while one patient only required an additional Van Lint facial block.

The results obtained are shown in the Table.

<table>
<thead>
<tr>
<th>Table</th>
<th>The effects of sub-Tenon's local anaesthetic infiltration upon akinesia, akinesthesia, and blistering. In those patients for whom there was an incomplete effect, the degree of akinesia and paraesthesia of orbiculatris was sufficient to facilitate surgery without requiring additional injections of local anaesthetic</th>
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</thead>
<tbody>
<tr>
<td>Effect</td>
<td>Complete</td>
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<tr>
<td>--------</td>
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<tr>
<td>Anaesthesia</td>
<td>24</td>
</tr>
<tr>
<td>Akinesia</td>
<td>21</td>
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<tr>
<td>Paralysis of</td>
<td>orbiculatris</td>
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</table>

* Proceeded to facial block.

Three patients who had previously experienced retrobulbar blocks for contralateral surgery stated that the anaesthesia for the second eye was much less painful. Only one patient complained of pain due to the infiltration of anaesthetic. There were no adverse complications.

This novel method of delivery of local anaesthesia is usually pain free and avoids the range of complications due to needle perforation. The use of hyaluronidase appears to increase the proportion of patients with sufficient facial akinesia to facilitate cataract surgery, without recourse to an additional facial nerve block.

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Reply

EDITOR,—I welcome Mr Dutton's results with the sub-Tenon's anaesthetic technique using a lignocaine-bupivacaine mixture with the addition of hyaluronidase. Hyaluronidase has been shown to improve both the speed of onset and the degree of akinesia produced by retrobulbar injection but no comparison for sub-Tenon delivery has been published. When I assessed one quadrant sub-Tenon delivery in 1991, hyaluronidase was not used owing to difficulties in supply, though I postulated that its use would be beneficial. A recent study involving ultrasound assessment of administered sub-Tenon solution found a rapid diffusion or 'leakage' of fluid from the sub-Tenon space to the anterior retrobulbar compartment. This evidence of posterior diffusion from the sub-Tenon space further supports the use of hyaluronidase to improve the efficacy of the sub-Tenon technique.

It is my current practice to perform sub-Tenon delivery for cataract surgery using approximately 3-0 ml of lignocaine 2% with added hyaluronidase and point diathermy applied to the conjunctival site of application. This provides a rapid onset of action with the elimination of haemorrhage from the site of incision in the conjunctiva.

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Indocyanine green enhanced diode laser photocoagulation of subretinal neovascular membranes

EDITOR,—It was with interest that I read M W Ulbig and colleagues' excellent article that appeared recently in your journal, concerning diode laser photocoagulation of choroidal neovascular membranes (CNVM).1 However, very surprised that no mention of indocyanine green (ICG) enhanced diode laser of subretinal neovascular membranes was made in this paper.2 This is a very important concept since ICG accumulates in subretinal neovascular membranes after clearance from the surrounding circulation.

This not only aids visualisation and identification of established and occult subretinal neovascular membranes in ICG infrared video angiography but acts as a chromophore facilitating absorption of 810 nm infrared diode laser energy.3 This potentially enhances thermal damage to CNVM as exemplified by the successful closure of all CNVM treated with ICG enhancement and diode laser (810 nm) at one session, without recurrence.1 Greater energy delivery is required with diode lasers to achieve a given endpoint in retinal photocoagulation when compared with greater transmission into the choroid. Subretinal haemorrhage and Bruch's membrane rupture are thus significant considerations.3 Any method that may allow for enhancement of thermal damage to the CNVM with increased energy delivery to the surrounding choroid may thus be desirable.

Given the fact that half the patients in Ulbig's study required further photocoagulation presumably either for incomplete treatment, failure to identify the extent of the CNVM, or precipitation of a further membrane, I am surprised that no reference to this important concept was made in their publication.

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