LOCAL ANESTHESIA IN GLAUCOMA'S SURGERY

ANESTESIA LOCAL EN LA CIRUGÍA DE GLAUCOMA

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There are a number of questions about the type of anesthesia to be applied and if it should be different depending on the type of surgical technique.

The use of topical anesthesia in cataract surgery is a routine procedure (1) due to the advantages of its application and the elimination of risks derived from loco-regional technique (retrobulbar hemorrhage, perforation, miotoxicity) as well as providing adequate analgesia, facilitating quick visual recovery and avoiding any type of occlusion.

For glaucoma surgery it should be the ideal technique because we must add to the above advantages the absence of IOP modifications determined by retrobulbar anesthesia secondary to the injection of anesthetic in the muscular cone and the application of Honan’s balloon, as well as the absence of subconjunctival hemorrhage (which may appear in subtenon anesthesia). This reduces the risk of failure of the anesthesia. However, in spite of all these advantages, its use is not widespread because glaucoma surgery is generally longer. In addition it involves specific surgical steps which exhibit an increased sensitivity to pain such as cauterization, scleral incision, conjunctival manipulation and suture.

As regards the surgical technique, cryocyclocoagulation is very painful, rendering topical anesthesia insufficient and justifying the use of loco-regional techniques.

In trabeculectomy and EPNP many surgeons talk about the utilization of topical anesthesia (2). However, in many cases this anesthesia is not isolated because it is followed on many occasions by intravenous sedation (propofol, midazolan, fentanyl) which give rise to increased analgesia as well as exhibiting possible side effects such as disorientation, confusion and respiratory depression. On other occasions, topical anesthesia is accompanied by subconjunctival anesthesia in the area where the scleral flap will be performed.

The utilization of topical anesthesia in isolation requires a previous selection of patients, who must collaborate and have low anxiety levels (to avoid discharge of catecholamines which increase blood pressure during surgery) and also requires greater skill by the surgeon due to the increased probability of sudden ocular movements and more blinking than with other anesthesia techniques. Its application in drops (tetracaine, oxibuprocaine, lidocaine) is initiated 20-30 minutes before surgery at five-minute intervals, thus increasing its absorption by tissue and achieving greater analgesia. After the surgery and before suture more drops added to reduce the patient’s pain. Lidocaine has also been added in the form of gel, achieving greater efficacy due to its longer and larger contact surface as well as a higher pH (6.7) which increases the non-ionized portion thereof facilitating its penetration in the cell membranes (3).

The utilization of subTenon anesthesia is broadly utilized because it does not change the IOP and involves a high level of analgesic. Many surgeons utilize it in the superior quadrant, in the area where the flap or the valve implant will be performed. Its main drawback is the appearance of chemosis or a subconjunctival hemorrhage, which has been described in up to one third of cases. This could increase the risk of failure of the surgery due to stimulation of the migration and proliferation of fibroblasts.

Retrobulbar anesthesia is being substituted by peribulbar anesthesia (sometimes it is difficult to differentiate one from the other), thus reducing the

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number of complications of the former (miotoxicity, retrobulbar hemorrhage, optic nerve damage). However, peribulbar anesthesia requires a larger volume of anesthetic to reach the muscular cone by diffusion (therefore, it takes longer to reach the adequate level of akinesia and analgesia) (4). This type of anesthesia utilized by several glaucoma experts is contraindicated in terminal glaucoma cases because the increase of IOP, which is sustained up to 10 minutes after its application, could damage the few remaining fibers. For this reason, in this type of patients, subTenon anesthesia is advisable.

It has been demonstrated that retrobulbar anesthesia reduces blood flow, which means that care must be taken in its utilization in normotensive glaucoma, where the vascular factor has a great influence (5).

As regards general anesthesia, it is reserved for patients who are likely to collaborate (children, mentally retarded or disturbed). Even though laryngoscopy and intubation temporarily increase the IOP, with good ventilation and blood pressure management, as well and avoiding cough upon awakening, the ocular pressure can be maintained at adequate levels for surgery.

Is it necessary to withdraw anticoagulants or anti-aggregating treatment?

Glaucoma surgery involves more bleeding than cataract surgery due to the manipulation of highly vascularized tissue such as the conjunctiva, the sclera and the iris. Therefore, the withdrawal of this medication would facilitate lower bleeding. In many hospitals, the withdrawal of drugs does not depend only on the ophthalmologist but also on the anesthetist, who usually recommend the substitution of sintrom by heparin starting three days before the operation. Even so, many are against the withdrawal of anti-aggregators because it involves a pro-thrombotic rebound effect, increasing the patient risks of exhibiting some type of vascular occlusive accident.

It can be concluded that any type of anesthesia is good as long as it provides adequate comfort for the patient during surgery and facilitate the success thereof.

REFERENCES