Prosthesis Implants for End-Stage Glaucoma

Several treatment options exist for painful, blind eyes secondary to glaucoma, including cyclocryotherapy or laser cryoablation, intraocular prosthesis implantation, and enucleation. Intraocular prosthesis implantation has become a popular option as it offers a painless, cosmetically acceptable eye. This article reviewed the outcomes of 20 cases (15 dogs) of evisceration with intraocular prosthesis implantation. Dogs with intraocular infection, neoplasm, or severe keratoconjunctivitis sicca (KCS) were not included for the procedure. Intraocular silicone prosthesis (ISP) was used in all cases. Postoperative rechecks were performed 2 or 3 days after the procedure, weekly for 1 month, and then in another 2 to 4 weeks for follow-up. At each visit, dogs were examined for ocular discharge, conjunctival wound healing, and globe size. Schirmer’s tear test and corneal fluorescein staining were also performed. Corneal edema (n=19) and pigmentation (n=15) occurred frequently after surgery, but this was expected and considered to be self-limiting; the most common postoperative complication was corneal ulceration (n=6). Other complications included purulent discharge (n=3) and KCS (n=2). All complications were well-controlled with appropriate treatment and had minimal effect on the surgical outcome. Except for 2 cases of KCS managed with cyclosporine, operated eyes were comfortable and free of medication after surgery. Owners were also generally satisfied, with 85% giving satisfaction ratings of excellent or good. No owners gave bad or unsatisfied ratings. It was concluded that evisceration with ISP implantation is a good, safe surgical technique with minimal complications for the treatment of end-stage glaucoma.

COMMENTARY: The intrascleral prosthesis (ISP) procedure was originally published in 1982 and is widely used as a more cosmetic alternative to either enucleation or chemical ciliary body ablation. The procedure should not be used in cases of glaucoma secondary to intraocular neoplasia or infection. The procedure itself produces hemorrhage because of the inability to use usual homeostasis techniques. Bleeding and postoperative pain can be diminished with the use of retrobulbar injection of marcaine and lidocaine with epinephrine. Postoperatively, topical antibiotics and systemic nonsteroidal anti-inflammatories and pain medications should be used. Hemorrhage around the sphere and orbital tissue swelling leading to exposure keratitis and corneal ulceration are commonly seen postoperatively. This problem can be decreased or eliminated by a partial temporary tarsorrhaphy or third eyelid flap to protect the cornea. The most common long-term complication is the development of KCS, which may occur several weeks to several years postoperatively. The relationship between ISP and KCS has not been elucidated. This author prefers an ISP over either enucleation or chemical ablation for cats with nonvisual eyes poorly responsive to medical treatment of glaucoma. Chemical ablation in the cat has been associated with the development of intraocular neoplasia.—

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