

Ahmed valve implantation for glaucoma treatment in three dogs

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Implantation of the valved gonioimplant has been evaluated to be one of the most effective surgical procedures for maintenance of the intraocular pressure (IOP) and vision in early glaucoma although the risk of failure still exists. The purpose of this study is to present the surgical outcomes of the valved gonioimplantation (Ahmed™ Valve S-2, New World Medical, Cucamonga, CA, USA) in three dogs with early glaucoma.

Breeds of the dogs were included Shih-Tzu (n=2) and American Cocker Spaniel (n=1). All of the patients presented with early glaucoma in unilateral eye but the affected eyes were all blind at the first visit. The IOPs measured with applanation tonometry (Tonopen™_XL, Mentor, Norwell, NA, USA) in the three cases were 64 mmHg, 60 mmHg, and 45 mmHg, respectively. Vision was restored in all cases after the intensive anti-glaucoma medical therapy and anterior chamber paracentesis. However, despite maximum levels of medical therapy the IOP increased again and visual impairment was followed. Therefore, the Ahmed™ valve implantation was performed in each case.

After the surgery, vision and adequate IOP (<15 mmHg) have been maintained in all cases. In a case, a small fibrin clot was detected at the tip of the tube 3 days postoperatively, but it did not impede the function of the implant and was resolved with routine anti-inflammatories. In other case, a fibrous capsule was formed around implant plate and the IOP was temporally elevated 3 weeks after the surgery. However, the IOP was reduced immediately after paracentesis of the capsule with injection of 5-fluorouracil.

This case study suggests that Ahmed™ valve implantation could be an effective strategy for maintenance of vision and the IOP in early glaucomatous dogs.

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