Scleral repair in a dog using an autogenous facia lata graft

Case History

A seven year old desexed Pomeranian cross bitch presented with a fluctuant dark mass at the dorsomedial limbus of the left eye. The mass had appeared suddenly following a dog fight 9 months earlier. Ophthalmic findings were unremarkable except for a distorted pupil in the left. This was due to the herniation of ciliary body tissue through a scleral defect at 10 o'clock, immediately caudal to the limbus. There was a 6mm diameter black mass in this position covered by freely movable, mildly hyperaemic conjunctiva. Mild corneal oedema was present at the limbus adjacent to this area. A peripheral, arborealising neovascular fringe was visible in the dorsal cornea as were sparse endothelial pigment deposits (Figure 1).

A diagnosis of a traumatic scleral rupture with ciliary body herniation and associated uveitis and keratitis was made. In order to protect the vulnerable uveal tissue and prevent globe perforation at the site it was decided to patch the scleral rupture with a bioscaffolding tissue.

An autogenous fascia lata graft was harvested from the craniolateral aspect of the mid left thigh. A 20mm x 12mm ellipse of tissue was taken and the fascial defect and the skin were closed with 3/0 glyconate suture (Monosyn, Braun). The graft was stripped of any adherent muscle and stored in a blood-soaked swab.

The left eye was prepared for surgery with a routine betadine/saline wash. The overlying conjunctiva was dissected from the dark mass (Figure 2). The fascial graft was sutured into the site on one side with 8/0 braided lactomer suture (Polysorb, DermaX) then trimmed to size (5mm x 6mm). The scleral edges were not freshened as some areas of surrounding sclera were very thin and a much larger defect would have been created. The graft was flat to the scleral surface after suturing and the conjunctiva was closed over the area using 6/0 braided lactomer suture (Polysorb, DermaX) (Figure 3). Cefovecin (Convenia, Pfizer, West Ryde, NSW) and carprofen (Rimadyl, Pfizer, West Ryde, NSW) were administered subcutaneously prior to surgery. Postoperatively, oral carprofen (Prolet, Jurox, Rutherford, NSW) and atropine (Atropt 1% drops, Sigma, Croydon, Victoria) were administered. Two weeks postoperatively localised hyperaemia and swelling was still present. Topical prednisolone acetate 1% (Prednefrin Forte, Allergan, Gordon, NSW) was given and all other medications stopped. The redness slowly resolved over the next 4 weeks. At 3 months postoperatively there was still some pupillary distortion, however robust fibrous tissue was now present in the area of the previous defect. There was a slight scleral bulge at this site and some corneal blood vessels persisted, however the associated oedema had reduced (Figure 4).

Discussion

Fascia lata has been well documented as a scleral graft in humans; both autogenous and cadaveric fascia have been used. It provides a bioscaffold material allowing migration of cells and vascular ingrowth to incorporate the graft at the host site. Fascia lata is an easily available, cheap graft material and large grafts may be harvested as required. The fascial graft was easy to handle surgically and there was minimal retraction when placed within the defect. Rejection problems are eliminated by using autogenous grafts. A functional and cosmetic effect was achieved with this method.

References

Torchia RD, Dunn RE, Pease PJ. Fascia Lata grafting in scleromalacia perforans. American Journal of Ophthalmology 1968 66(4):705-709

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Fig 1: The left eye at presentation

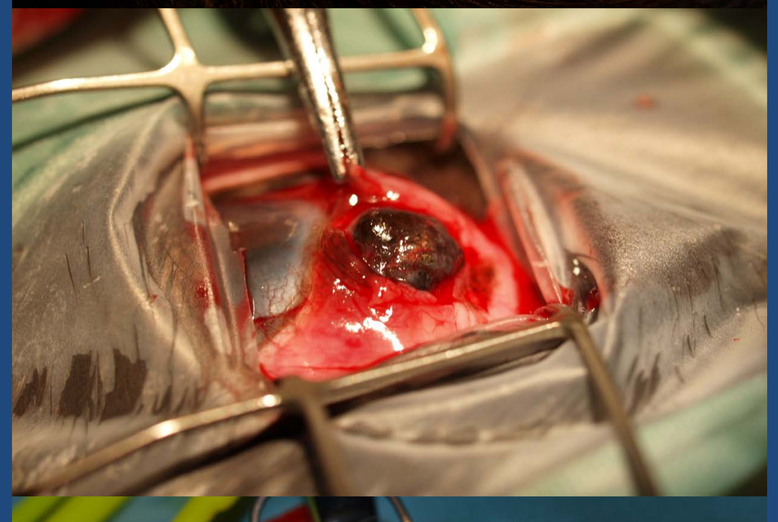

Fig 2: Dissection of the conjunctiva exposing the herniated uveal tissue

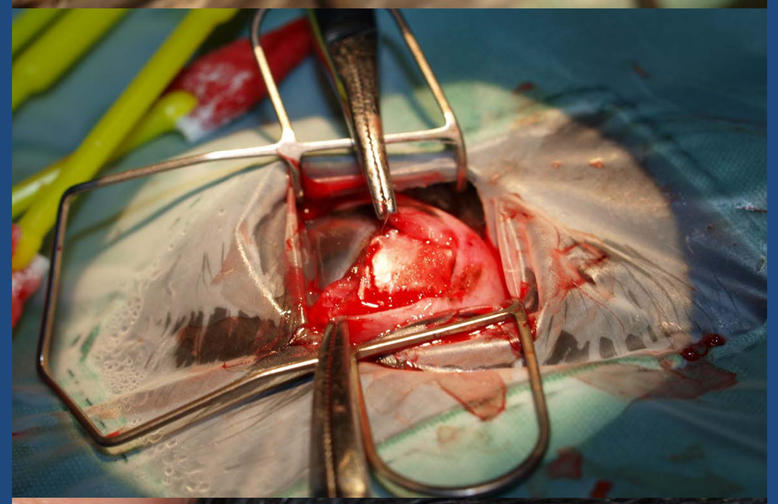

Fig 3: The fascial graft sutured in place

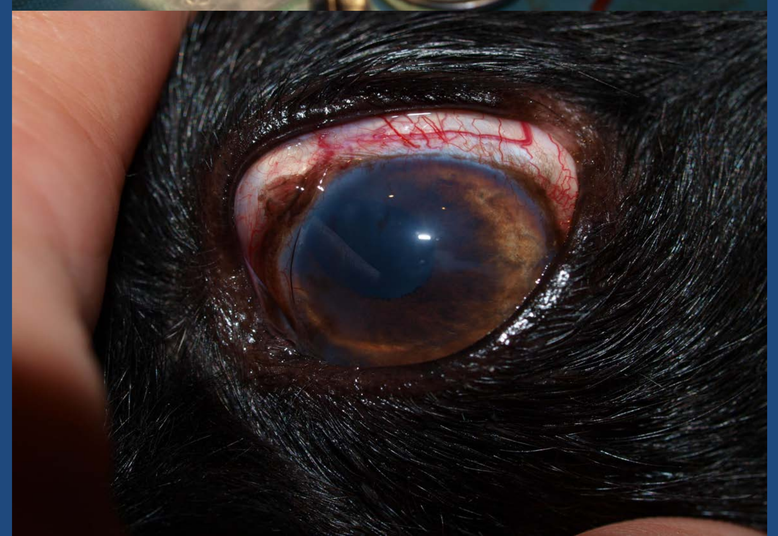

Fig 4: The left eye 3 months after surgery