

Parotid Duct Transposition

When is the parotid duct transposition indicated?

Parotid duct transposition (PDT) is the surgical treatment for dry eye. (see dry eye information sheet). It is usually considered as a last resort as it can result in several complications, some of which are as difficult to manage as the original "dry eye". However, in selected cases, parotid duct transposition can be very rewarding, with owners wishing they had gone for surgery in the first place! PDT is indicated in those patients where medical treatment has been minimally effective at best and the dryness is so severe that the eyes are constantly painful. These eyes are more at risk of developing ulcers, scars and pigmentation that can impair vision. PDT may need to be performed as an emergency procedure when ulcers develop, as ulcers can rapidly deteriorate in the absence of tears. Surgery must also be considered when owners can not apply artificial tears as often as required due to poor patient compliance or owner lifestyle/commitments.



Right eye of a Staffordshire Bull Terrier with dry eye associated with hypothyroidism showing dull cornea, corneal blood vessels and thick sticky discharge

What is a parotid duct transposition?

The parotid duct transposition is a delicate surgery which involves redirecting the opening of the duct of the parotid salivary gland from the mouth to the eye. Saliva is then secreted onto the surface of the eye which keeps the eye lubricated, as tears would do. The parotid glands are the largest salivary glands, located on both sides of the head, at the base of the ears. The parotid ducts leave the glands, cross the cheek between the muscle of the jaw and the overlying skin, and reach the mouth where they open via a papilla located adjacent to the fourth upper premolar tooth in dogs.

The surgery is performed under general anaesthesia, using magnifying head loupes. The fur is clipped off the side(s) of the face (depending on whether uni- or bilateral surgery is performed). A skin incision is made across the cheek. The duct is then carefully dissected out and the duct opening is freed from the mucosa in the mouth. The duct extremity is then carefully re-directed towards the eye and sutured into an opening that is made in the pocket present between the eyeball and the lower eyelid. The facial incision is closed routinely with dissolving sutures under the skin. Skin sutures may be placed depending on the surgeons preference.

What should be done before a parotid duct transposition is performed?

It is important to check that there is good saliva production before the surgery is performed because, in a few patients, both the lacrimal and salivary glands may be affected by the same disease process. Transposition of the duct in these patients would not improve the condition or would only

minimally or temporarily improve it. Saliva production is easily tested by administering a bitter substance into the mouth. Normally, saliva can be seen spurting from the gland opening.

Because a part of the surgery is performed in the mouth, the teeth should be cleaned a few weeks before hand to decrease risk of infection.

Are saliva and tears the same?

Even if saliva does not exactly have the same composition as tears, it is pretty similar and makes a good substitute for tears. Saliva is usually well tolerated on the eye but mineral deposition on the ocular surface may occur. A few patients are irritated by the presence of saliva on the eye but in most cases it results in improved ocular comfort in the surgically treated eye.

How do I care for my pet after the surgery?

Your dog will have to wear a collar until the skin wound has healed. The facial wound often swells after surgery, and this can be controlled with the application of warm compresses and usually rapidly resolves. The procedure is not very invasive and is therefore not very painful. Antibiotic and anti-inflammatory tablets will help to prevent infection and control any pain and inflammation. Antibiotic eye drops will also be prescribed to prevent local infection. It is recommended that you feed your pet small frequent meals to encourage salivation in order to flush any post-operative debris out of the duct. The duct can swell as a result of surgery and, if normal feeding does not stimulate salivation, the side of the face should be gently massaged and a more potent saliva stimulant given orally (such as lemon juice!).

What are the complications of parotid duct transposition?

Complications of surgery are not life threatening and rarely vision threatening. Because the majority of

saliva is produced at meal times, some animals may have 'dry eye' in between meals and may need to be fed with regular small amounts of food to stimulate saliva secretion and keep the eye moist. Saliva contains "salts" and these can deposit on the cornea causing mild to marked irritation, and sometimes, corneal inflammation. These can be minimised by a change of diet and/or topical drops to dissolve these salts. Some patients will present with excessive saliva production, mainly when they eat, which will result in staining and wetting of the face and sometimes induces periorcular skin inflammation (dermatitis). The latter condition can be managed by keeping the facial hair short and applying a protective ointment such as Vaseline. Intermittent courses of oral antibiotics may be needed if the dermatitis is severe.

Regular monitoring by an ophthalmologist is advisable in order to assess the health of the eyes and correct or minimise any side effects of the parotid duct transposition. Even though continued lifelong management is often required, a parotid duct transposition can allow you and your pet to conduct a much more normal life.



Left eye of the same Staffordshire Bull Terrier after a PDT showing a glossy cornea. Some salivary salts can be seen adherent to the hair of the upper eyelid near the inside corner of the eye (arrow)

If you have any further questions do not hesitate to contact the Ophthalmology department at Rutland House Referrals on 01744 853510