Gonioscopy

Gonioscopy describes the examination technique that allows visualization of the iridocorneal, junction between iris and cornea and part of the aqueous outflow pathway. It is most commonly performed in canine patients in which glaucoma is diagnosed. In dog breeds in which goniodysgenesis is proven or suspected to be inherited, gonioscopy is often conducted before breeding. Criteria to evaluate the iridocorneal angle, the opening of the ciliary cleft and the pectinate ligament include angle width (open or closed) and morphology (fibrae latae, laminae, occlusio). Gonioscopy is performed to check for the presence of tumors, foreign bodies or inflammatory debris. Different designs of direct (Koeppe, Loavc-Barkan) or indirect goniolenses (Sussman, Posner) are commercially available. Gonioscopy does require abundant practice to recognize normal from abnormal variations.

Ultrasound examination of the eye and orbit

Ultrasonography is a noninvasive technique to evaluate intraocular and orbital structures and lesions. An ultrasonographic examination is indicated if complete ophthalmic examination cannot be performed due to opaque ocular media (cornea, aqueous humor, lens, vitreous). It is also useful in eyes with ocular trauma, orbital disease, for biometric measurements and to guide fine needle aspiration. B-mode ultrasonography is most commonly performed with a standard 10 MHz transducer with a focal range of 3-4 cm. The direct corneal contact method after a topical anesthetic is the preferred technique. Examination of the eye and orbit through closed eye lids or using the transcutaneous temporal technique will be discussed as well. Ultrasonography should be performed at least in the vertical and horizontal plane.

Surgery of the cornea –Basics and advanced surgeries

The veterinary corneal surgeon should be versed in microsurgical techniques and use appropriate instrumentation, suture material and magnification. Surgical management of corneal diseases in animals ranges from superficial keratotomy for spontaneous chronic corneal epithelial defects to corneal transplantation for full-thickness defects. A complete ophthalmic examination prior to surgical management of corneal diseases, knowledge of corneal anatomy, physiology and adjunctive medical therapy options are essential for a successful outcome. The presentation will provide an overview of surgical techniques such as keratotomy, keratectomy, conjunctival grafts, corneoscleral or – conjunctival transposition and corneal grafts.

Ocular emergencies

The most common ocular emergencies for which early and fast intervention is necessary to prevent severe or permanent damage to the eye will be discussed in the presentation. Prompt recognition, careful examination and simple tests can help to make decisions about appropriate treatment and referral. Lacerations, foreign body and proptosis are obvious ocular emergencies but vague symptoms like a red, a painful or cloudy eye can also represent a sight / eye threatening situation. Thus, ophthalmic emergencies can also result from chronic eye diseases. It is advantageous for the clinician to have knowledge about breed associated eye problems and eye disease associated with systemic diseases.

Ocular manifestation of systemic diseases in animals

Ocular examination of patients with systemic disease is essential part of a physical examination. Often, it can assist in identification of the systemic disorder or reduce the list of possible differential diagnoses. Occasionally, the eye findings are the first indication of an underlying systemic disease. Animals with bilateral ocular signs should be carefully evaluated for systemic problems. Diseases affecting the vascular and nervous systems are more likely to show ocular manifestations. Different areas of the eye are targets for different types of diseases. According to the mechanism or cause systemic diseases can be categorized in congenital, vascular, neoplastic, autoimmune, infectious, endocrine or drug and toxin associated.