BILATERAL PHACOEMULSIFICATION AND IOL IMPLANTATION FOR THE TREATMENT OF BILATERAL CONGENITAL CATARACT IN A YOUNG LIONESS (Panthera leo)

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Purpose: To describe a case of bilateral congenital cataract in a lioness treated with bilateral phacoemulsification and implantation of foldable, acrylic, intraocular lenses (IOLs) (S&V Technologies AG Acrivet, Hennigsdorf, Germany) specifically studied for this species (Fig.1).

Methods: A 15 month-old lioness (Elsa) from a circus, who exhibited aggressive behaviour since birth, underwent a complete ocular examination. The diagnosis was bilateral congenital immature cataract (Fig.2 and Fig.3).

The IOL dioptic power and size that were specifically made for this lioness, were obtained using an A-mode ultrasound (BioLine, Optikon 2000, Roma, Italy) to determine the antero-posterior axis length, (which was of 27.92 mm and 28.31 for the right and the left eye respectively) (Fig.4 and Fig.5), and a B-mode ultrasound (MyLab, Esaote Piermedical, Italy) to determine the crystalline lens thickness (which was 0.86 mm), and a corneal topographer (Keratron Piccolo, Optikon 2000, Roma, Italy) to calculate the corneal curvature (Fig. 8 and Fig.9). The IOLs were 22mm in diameter with a diopter power of 30-D (Fig.10).

The lioness was anesthetized, intubated and maintained under anesthesia with isoflurane and oxygen before performing the ERG (Fig.13).

Results: Both eyes underwent phacoemulsification (Pulsar, Optikon 2000, Roma, Italy) and successful IOL implantation. The phaco time was 4 minutes and 42 seconds for the first (left) eye and 2 minutes and 52 seconds for the second (right) eye; the ultrasonic power used for both surgeries was 80%. The 2 IOLs were slightly oversized in both cases and, therefore, the haptics were partially cut to locate them centrally in the capsular bag. 20 mg of triamcinolone acetonide (Bristol-Myers Squibb, Italy) was administered subconjunctivally in both eyes at the end of each surgery and the same dosage was repeated after 3 weeks. After 9 weeks and 8 weeks from the first and the second surgery, respectively, both eyes appeared quiet with no apparent intraocular inflammation (Fig.14 and Fig.15). Retinoscopy was performed at this re-check examination and revealed both eyes to be within 1.5 D of emmetropia.

Conclusion: This is a first report of bilateral phacoemulsification followed by IOL implantation using intraocular, acrylic, foldable lenses specifically studied for this lioness. 5 months post surgery the patient, seemed to have a normal vision and her overall behavior improved dramatically.

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