

Iohexol Effects on Tear Biochemical Profiles in Normal Large Animal Model

A. Tabatabaei Naeini, N. Ziaei

Dept. Clinical Studies, Surgery, Shiraz University, Shiraz, Iran

Background and purpose: Dacryocystography or visualization of nasolacrimal duct had been widely used in the assessment of the nasal lacrimal system. The water-soluble agent iohexol is currently widely used in nervous and vascular lesion in diagnostic radiology and also employed in dacryocystography. This study was performed to determine the effects of iohexol on tear parameters in normal donkey as a large animal model.

Materials and Methods: We examined 10 normal donkeys mean age approximately 4.5 years. The donkeys received iohexol once a day. All donkeys were housed outdoors throughout the study. Different tear parameter (total protein, lysozyme, sodium, and potassium and protein electrophoresis of tear) were measured at 0, 2 hours and 2 weeks after dacryocystography with iohexol.

Results: The results showed that mean and standard deviation of total protein of tear were 5.88 ± 2.15 mg/ml before dacryocystography and after 2 hours was 4.10 ± 0.96 and after two weeks was 7.36 ± 3.68 . Mean and standard deviation of lysozyme was 858.39 ± 170.88 units in mg of protein of tear and after two hours was 1013.19 ± 178.67 and after two weeks was 702.54 ± 360.50 . Mean \pm SD of sodium of tear before dacryocystography was 3084.90 ± 725.44 μ /ml and after two hours and two weeks were 3508.40 ± 1372.52 and 8026.20 ± 2953.88 respectively. Mean \pm SD of Potassium of tear before dacryocystography was 863.37 ± 52.55 μ /ml and after two hours and two weeks were 753.84 ± 46.81 and 1564.20 ± 276.41 respectively. Results of SDS-PAGE of donkeys tear confirmed that nine protein bands with molecular weights between 10 kDa and 15 kDa are present. No differences found in protein electrophoresis pattern before and after iohexol administration. No significant changes were present in measured factors at different times.

Conclusion: In conclusion iohexol is a safe and suitable contrast media for dacryocystography.

Key words: Iohexol, Dacryocystography, Protein, Electrophoresis, Lysozyme