



Pneumodissection Technique in Pacoemulsification Surgery can be used for all types of Cataract particularly Posterior Polar Cataract

Dr. Mohamed A. Siddig*

***Correspondence to:** Assoc. Prof. Dr. Mohamed A. Siddig, Omdurman Islamic University, Khartoum Eye Hospital, Glaucoma Department – Sudan.

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Introduction

Cataract surgery is the most commonly performed ophthalmic procedure worldwide. Posterior polar cataracts present a unique surgical challenge due to the inherent weakness of the posterior capsule. Hydrodissection, though widely used, increases the risk of capsule rupture. Pneumodissection has emerged as a promising alternative, offering controlled separation of cortical matter from the capsule with reduced risk.

Aims

In hydrodissection we aim to separate cortical matter from capsular bag so that rotating nucleus and cortical aspiration become easy. In this studied pneumodissection is a new technique with more advantages, to avoid high risk of posterior capsule rupture during cataract surgery due to the strong adherence of opacity to the capsule.

Procedure of Surgery

After performing the removal of the anterior capsule of the lens, known as capsulorhexis, air is injected beneath the capsulorhexis. At this point, a sign indicating separation of the lens nucleus appears, known as the “Golden Mass” sign. This is similar to the “Golden Ring” sign seen during hydrodissection (fluid injection).

This indicates that the lens has been successfully separated from the posterior capsule, thus preserving the posterior capsule from rupture, which is particularly important in cases of posterior polar cataract due to strong adhesions.

Following this, viscoelastic material is injected into the anterior chamber, and the nucleus is gently mobilized. Phacoemulsification is then performed, completing the surgical steps up to intraocular lens implantation and finishing the procedure.

In all cases, no posterior capsule rupture occurred. This new technique therefore makes the procedure easier and more reliable.

Material and Methods

This case series studied the use of pneumodissection in phaco surgery between July 2011 and June 2024 .

Results

The study included 1500 patients of which 950pt were males and 550pt were females, .the mean age of patients was 55years (range 50- 60years). With Best results in posterior polar cataract (No cases of posterior capsule rupture associated with this pneumodissection technique were reported in this study).

Conclusion

Pneumodissection technique is easy and softy , and can be used in the all types of cataract, particularly in posterior polar cataract.

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