

Phacoemulsification contribution to the improvement of quality of life

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The aim of this study was to present the advantages and the outcomes of phacoemulsification in improving the quality of life.

Five hundred patients were operated on using the phacoemulsification technique from January 2001 to June 2001. Visual acuity was better than 5/10 without correction in 93.4% of patients on the

first postoperative day. Rupture of the posterior capsule with or without vitreous loss was 0,4% and 0,8% respectively. In conclusion phacoemulsification is the best technique of cataract surgery, has excellent postoperative results and greatly improves life quality.

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Cataract removal by phacoemulsification is a specialized form of extracapsular cataract extraction (ECCE) that emulsifies the nucleus instead of expressing it through a large incision as is required in ECCE. Phacoemulsification's smaller wound offers certain advantages including maintenance of a pressurized globe throughout the procedure, faster patient rehabilitation, and better uncorrected postoperative visual acuity because of less surgically induced astigmatism. Since the goal of cataract surgery with intraocular lens implantation is the best possible uncorrected vision, the surgeon must minimize the preexisting astigmatism. Patients who undergo phacoemulsification and foldable intraocular lens implantation with a 4 mm wound usually achieve their final, stable refraction in one to two weeks, while with the standard ECCE the above mentioned period ranges from eight to twelve weeks.¹ The purpose of our study is to underline the improvement of quality of life in patients who undergo cataract surgery with phacoemulsification.

Patients-Methods

Our study includes 500 cataract patients who have undergone phacoemulsification at the Department of Ophthalmology of the Hippokraton Thessaloniki Hospital from January 2001 to June 2001. Patients were randomly selected and the only criterion was that they have been operated on by the same sur-

geon (P.T.). Patients' age ranged from 41 to 87 years with a mean age of 63,2 years. Preoperative examination included visual acuity examination, biomicroscopy under maximal possible mydriasis, intraocular pressure measurement with applanation tonometry, keratometry, ophthalmoscopy and biometry. These examinations were done the day before the operation and the patients left the hospital. The patients were admitted to the hospital the day of the operation. For the necessary preoperative mydriasis a combination of phenylephrine 10%, hydrochloride cyclopentolate 1% and tropicamide 0,5% was used. Indomethacin drops were used as an antiprostaglandin agent. Patients with pseudoexfoliation, glaucoma or preceded glaucoma surgery were not excluded from the study. Retrobulbar anaesthesia was mainly used and in some patients (17) topical anaesthesia was used. A small 2 mm side-port incision with a 15 degree knife was initially performed at the two o'clock position through which viscoelastic was injected into the anterior chamber. A 3,2 mm corneal incision in two levels was performed with a keratome, which entered the anterior chamber at approximately 11 o'clock position. Anterior continuous curvilinear capsulorhexis with a Kraff-Utrata forceps was performed followed by hydrodissection and hydrodelineation. The phacoemulsification technique was a small modification of P.Koch² "stop and chop" technique. After peripheral cortex removal the initial 3,2 mm incision was enlarged to a 4 – 4,2 mm inci-

sion and a foldable lens was implanted. Finally viscoelastic was removed, vancomycin was injected and the incisions were closed with the creation of local edema without suturing.

Results

Retrobulbar anaesthesia was used in 483 (96,6%) patients and topical anaesthesia was used in 17 (3,4%) patients who had blood coagulation disorders. Cataract type was classified as follows: nuclear and posterior subcapsular 346 (72,8%), only nuclear 83 (16,6%), only posterior subcapsular 35 (7%) and mature (white) 18 (3,6%). 37 (7,4%) patients had glaucoma and 23 (4,6%) patients had preceded glaucoma surgery. Preoperative mydriasis was good (more than 5 mm) in 374 (74,8%) patients, satisfactory (less than 5 mm) in 104 (20,8%) patients and poor (less than 3mm) in 22 (4,4%) patients. The latter used miotics, which were discontinued one day before surgery. In 7 (1,4%) patients the pupil size was pinpoint and iris retractors were intraoperatively used. All patients came to our Department the day before surgery for their intraocular lens power calculation and then they left. Our patients were admitted to the hospital the day of surgery. Rupture of the posterior capsule without vitreous loss occurred in 4 (0,8%) patients, while rupture of the posterior capsule with vitreous loss occurred in 2 (0,4%) patients. Uncorrected visual acuity was more than 5/10 in 467 (93,4%) patients on the first postoperative day. Seven (1,4%) patients had visual acuity below 5/10 due to fundus lesions, while the rest 26 (5,2%) patients had visual acuity below 5/10 on the first postoperative day due to temporary corneal edema which was resolved in a few days.

Discussion

Phacoemulsification introduction by Kelman during the 60's decade meant the beginning of a new era in cataract surgery.^{2,3} Since that time phacoemulsification has been accepted in ophthalmic surgery due to the advantages offered to the patients. Phacoemulsification is currently considered different from extracapsular cataract extraction. During the 80's and 90's decades, phacoemulsification has become extremely popular. This technique was used in 65% of cataract surgeries in USA in 1991.^{4,5} In 1996 the annual statistics of the American Society of Cataract and Refractive Surgery showed that phacoemulsification was the preferred technique in USA.⁶

Phacoemulsification offers rapid visual rehabilitation, induces less surgical astigmatism, has lessened

the incidence of traumatic wound rupture in the elderly and causes lessened postoperative inflammation.⁷ The patients go sooner back to their work and have improved efficiency and independence in their activities. The most important factor of the phacoemulsification technique is the incision size, which ranges from 2,5 – 4,2 mm. Recent studies have documented a statistically significant reduction of induced astigmatism in the early months after surgery with smaller incision sizes.⁸ The benefit of visual stability in the early months after surgery is another outcome that needs to be recognized, but has not traditionally been included in studies. In conclusion phacoemulsification is the best modern technique of cataract surgery, which improves the quality of life but has a difficult and prolonged learning curve.^{5,9,10}

ΠΕΡΙΛΗΨΗ

Σ. Αβραμίδης, Γ. Σάκκας, Χ. Σέκερης, Π. Τραϊανίδης.
Η φακοθρυψία ως μέθοδος βελτίωσης της ποιότητας ζωής των ασθενών με καταρράκτη. *Ιπποκράτεια* 2002, 6 (2): 78-80

Σκοπός της παρούσας μελέτης ήταν η παρουσίαση των πλεονεκτημάτων και της εξέλιξης της φακοθρυψίας σε σχέση με την βελτίωση της ποιότητας ζωής. Πεντακόσιοι ασθενείς χειρουργήθηκαν με την μέθοδο της φακοθρυψίας από τον Ιανουάριο μέχρι τον Ιούνιο του 2001. Η οπτική οξύτητα ήταν μεγαλύτερη από το 5/10 χωρίς διόρθωση σε ποσοστό 93,4% των ασθενών κατά την πρώτη μετεγχειρητική ημέρα. Ρήξη της οπίσθιας κάψας με ή χωρίς απώλεια υαλοειδούς επισυνέβη σε ποσοστό 0,4% και 0,8% αντίστοιχα. Συμπερασματικά η γαλακτωματοποίηση του φακού συνιστά την καλύτερη χειρουργική τεχνική στην αντιμετώπιση του καταρράκτη, παρουσιάζει άριστα μετεγχειρητικά αποτελέσματα και βελτιώνει σημαντικά την ποιότητα ζωής των ασθενών αυτών.

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