

# The Experience of Applying Simultaneous Bilateral Cataract Surgery (Sbcs) In a Patient with Deep Congenital Psychic and Somatic Pathology

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**Received:** 20 August 2017; **Accepted:** 29 September 2017

**Citation:** Kliuiev G, Luhova O, Matskevych O, et al. The Experience of Applying Simultaneous Bilateral Cataract Surgery (Sbcs) In a Patient with Deep Congenital Psychic and Somatic Pathology. Med - Clin Res & Rev. 2017; 1(2): 1-3.

## ABSTRACT

*There was described the case of applying simultaneous bilateral cataract surgery (SBCS) in a patient with deep congenital psychic and somatic pathology. There were performed the instillation of a water-soluble fluorescein solution and the hard contact lenses was applied, with the following light source with a blue filter.*

*Because of the complicated deformation of the trachea, intubation was not possible and a device called "Combitube" was used. As a result of operation the patient had the vision and the orientation in space was appeared and aggressive behavior was disappeared.*

## Keywords

Cataract, Phacoemulsification, IOL, Imbecility, Anesthesia, Mentally ill, Intubation, Trachea, Combitube.

## Introduction

The mother of patient (the patient was born in 1966 and was disabled child with a common disease) addressed to us with complaints about a gradual decrease in the vision of his both eyes, a poor orientation in space for several years. Also, the patient suffered from imbecility and dumbness from childhood [1-3].

The aim of our research is to study the possibility of simultaneous bilateral cataract surgery (SBCS) in a patient with deep congenital psychic and somatic pathology.

## Materials and Methods of Research

On examination, a mature bilateral cataract was found. It was not possible to check visual acuity and light perception, to conduct keratometry and ultrasound remote echobiometry with the calculation of IOL because of the aggressive and unbalanced behavior of a patient having a mental disorder.

In view of the foregoing, as well as the absence of a portable keratometer for keratometry in the supine position, it was decided, after giving endotracheal anesthesia with muscle relaxants, to conduct the definition of the curvature of the cornea with a set of hard contact lenses with different radiuses of curvature, with an aqueous solution of fluorescein and a light source with a blue filter, with the subsequent carrying out of ultrasound-remote echobiometry, calculation of IOL and surgical treatment.

Considering the difficulties in transporting and organizing the operation, blindly mute condition, aggressiveness, mental disorders of the patient, it was decided to perform ultrasound phacoemulsification of the cataract with implantation of the IOL during one operative intervention on two eyes.

During giving the patient anesthesia, the anesthesia team found curvature and narrowing of the larynx and trachea, which did not allow the introduction of even a children's endotracheal tube. On attempting the intubation and direct laryngoscopy was revealed that the glottis is absolutely inaccessible for detection, and all attempts to intubate blindly were unsuccessful, since the patient had an unusual deformation of the trachea [4-7].

A simple and very effective means of solving this problem was a device called "Combitube" (laryngeal obturator tube). The introduction of this device does not require the detection of a glottis, and it is simply inserted into the mouth before combining the special mark with the level of the incisors. Simultaneous combination of two cuffs: one at the entrance to the esophagus, the second in the oral cavity, seal the space above the vocal slit and makes breathing effective and safe. "Combitube" fully met expectations and the anesthesia passed without any complications.

After entering the patient into anesthesia, it was determined the radius of curvature of the cornea with following echobiometry and calculation of the IOL on the Sonomed EZ Scan AB 5500+, and then surgical intervention.

### **The method of determination the curvature of the cornea by using a set of hard contact lenses with different radius of curvature**

There were performed the instillation of a water-soluble fluorescein solution and the hard contact lenses was applied, with the following light source with a blue filter. Filling by the dye the space under the lens, mainly on the periphery, indicated a "flat" landing and in the center – a "steep" landing of the HCL. In the normal position of the lens on the eye, fluorescein was evenly distributed along the under lenses space.

After reaching the normal fit of the hard contact lens, considering the basic curvature of the selected lens, according to the appropriate table, the radius of the cornea was determined. Later, these data were used to calculate the IOL.

Then, an ultrasound phacoemulsification of cataract was performed with IOL implantation on two eyes. There was used phacomashine Sovereign Compact.

### **Results and Discussions**

At the bandage the patient showed vision, an orientation in space was appeared and aggressive behavior disappeared. The patient recognized the mother and gestured with thankful signs to the doctors. At subsequent observation of the patient, vision was preserved.

The analysis of this case makes it possible to recommend in aggressive psychiatric patients with bilateral cataract the following:

- Phacoemulsification of cataract with IOL implantation is expedient to be carried out simultaneously at two eyes.
- Calculation of the IOL and the subsequent operation is performed under endotracheal anesthesia with muscle relaxants.
- In the absence of a portable keratometer, it is possible to determine the radius of curvature of the cornea by using a test set of hard contact lenses and a fluorescein test.
- Considering the possible concomitant pathology and intubation difficulties, in such patients, it is advisable for the anesthetist to have in his arsenal a laryngeal tube "Combitube",

as an effective means of providing airway patency in the most difficult situations and various deformations of the trachea.

### **Conclusion**

The authors describe the clinical case of the simultaneous removal of mature bilateral cataracts in both eyes in a patient with a deep innate psychic and somatic pathology. The patient was blind, mute, suffered from imbecility with aggressive behavior [8-10].

It was decided to carry out the necessary ultrasound diagnosis and calculation of the IOL after the patient's injection into anesthesia under muscle relaxants. Because of the complicated deformation of the trachea, intubation was not possible and a device called "Combitube" was used.

As the portable keratometer, which allows carrying out the investigation in a supine position, was absent, the radius of curvature of the cornea was determined with the help of a test set of hard contact lenses and a fluorescein test. Then, ultrasound biometry and IOL calculation were performed and the operation was started. The operation was conducted on two eyes. Vision was restored. Aggressiveness of the patient disappeared.

This clinical case shows a successful way of solving the problems posed to the ophthalmic surgeon for improving visual functions and improving the quality of life in patients with severe psychosomatic pathology. It was confirmed the expediency of carrying out one-stage operations on two eyes in mental patients [11-13].

Also, this case allows recommending the Combitube device as an effective means of providing airway patency in the most difficult situations and various deformations of the trachea.

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