

Does the Patients Undergoing Cataract Surgery under Local Anesthesia Need Medical Testing before Operations?

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Abstract

Background: The largest number of operations in ophthalmology are cataract surgery under local anesthesia. Most of patients are elderly. There is no institutional protocol for prior analysis to be undertaken by patients. The study will examine if it is necessary to perform these test prior to operations.

Methods: We randomly selected 2500 cases undergoing cataract surgery, from January to September 2016, on ophthalmology clinic. 925 cases were preceded by standard tests (electrocardiography, blood tests, serum levels of electrolytes, nitrogen, glucose and creatinine). No routine tests were made on 1575 cases. Both groups were asked about their medical history and underwent physical examination. The incidence of adverse medical events was observed during the operation and post operation, in the interval three days after the surgery.

Results: The most frequent medical event observed was treatment of hypertension and arrhythmia. The overall rate of intra and postoperative complications was 200 events on 1000 operations. The ratio was mainly the same on both groups. There is no significant difference between two groups on intraoperative events and postoperative events.

Conclusions: There is no necessity of asking routine tests on patients undergoing cataract surgery under local anesthesia. It is necessary to do physical examination and medical history before operation. The medical test may be required on doctor demand.

Background: Cataract extraction is one of the most common surgical procedure conducted in the world today. The majority of operations in ophthalmology are cataract surgery under local anesthesia. Most cataracts are performed on older individuals with correspondingly high systemic and ocular comorbidities. In addition, because of the age, they present other diseases as cardiac disorders, HTA, pulmonary diseases, diabetes, neurologic disorders and other diseases. Despite the fact that most patients are elderly, the post-operative complications rate remain low and mortality is very low. Rodrigo P. Cavalcante L. Cataract treatment is considered as a day surgery and most operations are implemented under local anesthesia. Routine medical treatments are not required prior to the operation. Oliver D Shein Since it is no institutional requirement, some patients present on the day of operation routine medical tests and some others don't. A preoperative control is done by the anesthesiologist on all patients. The pre-operative control is mainly a discussion about the routine medical tests that the patients must present. It is likely that routine preoperative medical testing will detect medical unknown conditions that may influence surgical outcomes, but it is questionable whether these conditions should preclude individuals from cataract surgery or change their perioperative management. Andrey A. Josef E.

Objective: This study will analyze if the necessity of performing routine test prior to cataract surgery under local anesthesia operations. The result will be tested by investigating the evidence for reduction of adverse intra and post-operative events through preoperative medical treatment.

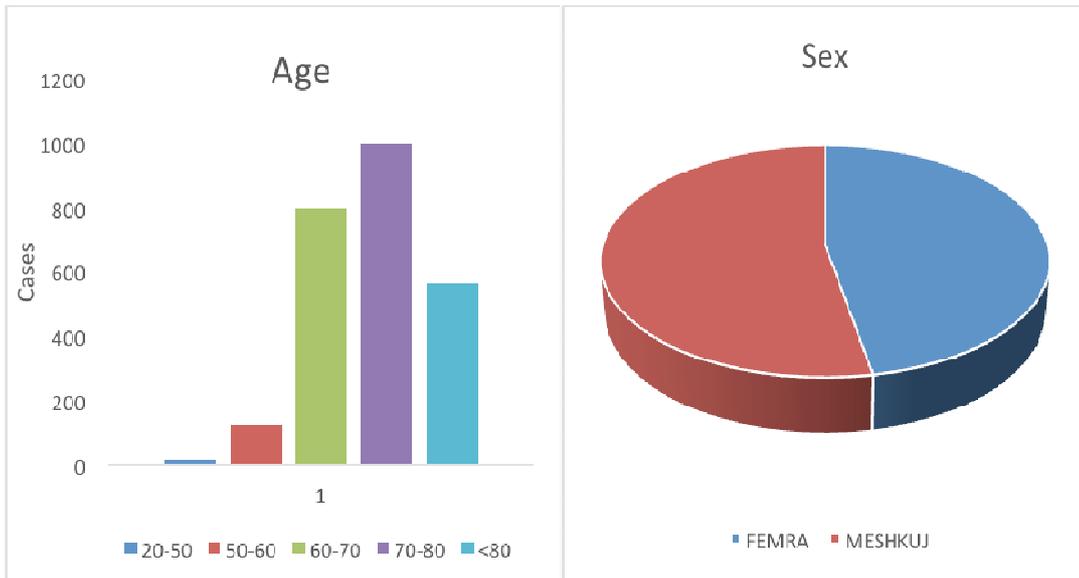
Material and Methods: The study was performed in Mother Theresa Hospital, the biggest national University Hospital Center in Albania. It was designed to be a large trial with few exclusion criteria and easily accessible outcomes. The study was implemented from January to September 2016 on ophthalmology clinic. The cases were selected randomly. Operation under general anesthesia were excluded. There were no age exclusion criteria. On both groups it was taking a medical history and physical examination were done by the anesthesiologist. Some of the patients had some premedication as sedatives, antihypertensive antiarrhythmic drugs because they were treated for other diseases. We observed the incidence of adverse medical events during the operation and post operation in the interval three days after the surgery. The adverse medical events are defined as:

1. HTA Crisis
2. Tachycardia
3. Bradycardia
4. Hypoglycemia
5. Panic
6. Pulmonary edema
7. Postop agitation
8. Epileptic crisis

The analysis was conducted on two groups. One group of patients (Group 1) that underwent medical analysis before surgery and the other (Group 2) who did not. Events were counted on a per operation basis. Patient that had events both intraoperatively and on post operation basis were counted as 1.

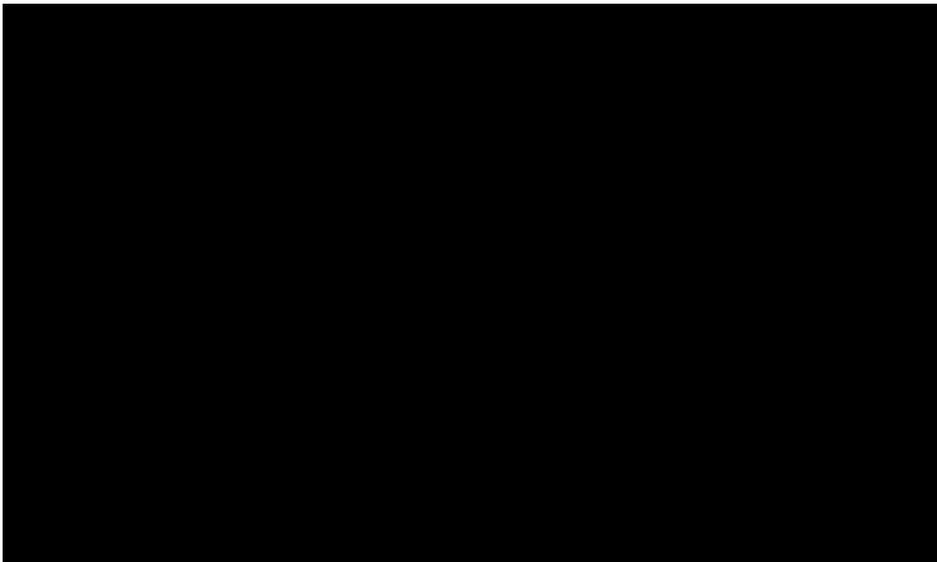
Characteristics of patients: We randomly studied 2500 cases undergoing cataract surgery under local anesthesia. The age of the patients was from 25 - 105 years old. The patients were 45% female and 55% male.

Graph1. Age and sex of patients



Other diseases were present on the population of cases. The most common present diseases were HTA, Rhythm disorder, Cardiac disease and Diabetes: 91% of patients previously suffered from HTA; 68% previously suffered of Rhythm disorders. 74% of cardiac disease, 53% of Diabetes and 30% of respiratory diseases.

Graph 2: Present diseases on patients.

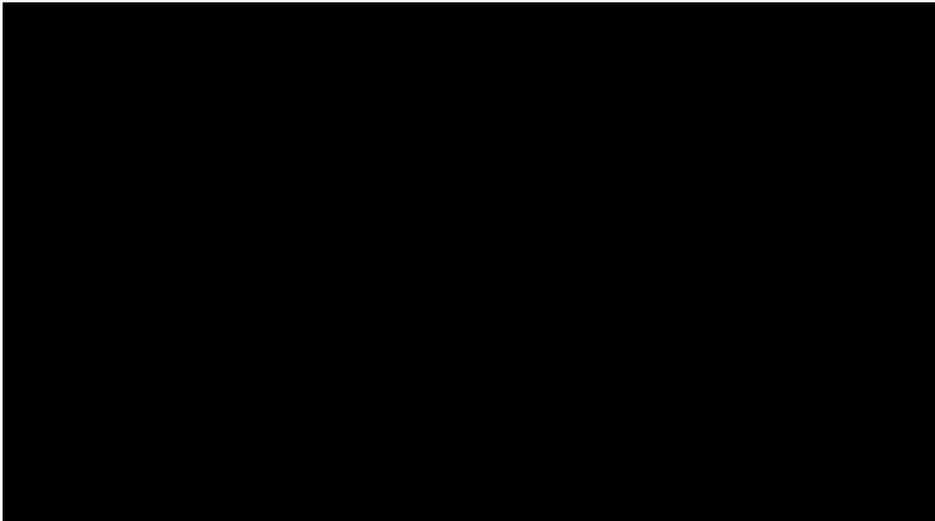


On 925 cases the operation was preceded by standard tests (electrocardiography, blood tests, and serum levels of electrolytes, nitrogen, glucose and creatinine). There were no routine tests were performed on 1575 cases.

Results:

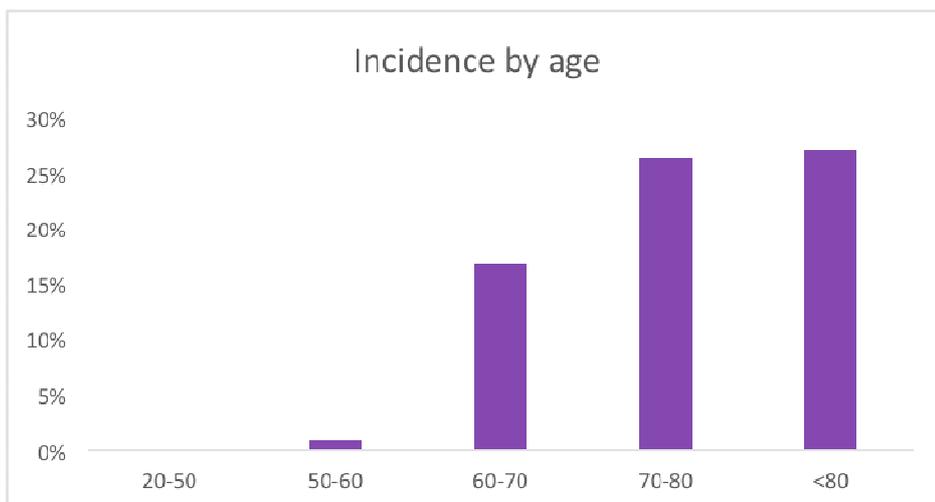
Results show that in 46% of the cases we observe the presence of complications. In 12% of the cases there were intra operatory complications. In 30% of the cases we observe the presence of post operatory complications (within 3 days). The most frequent medical events were HTA crisis (34% of the cases), Tachycardia (7% of the cases) and bradycardia 3% of the cases.

Graph 3. Incidence of complications:



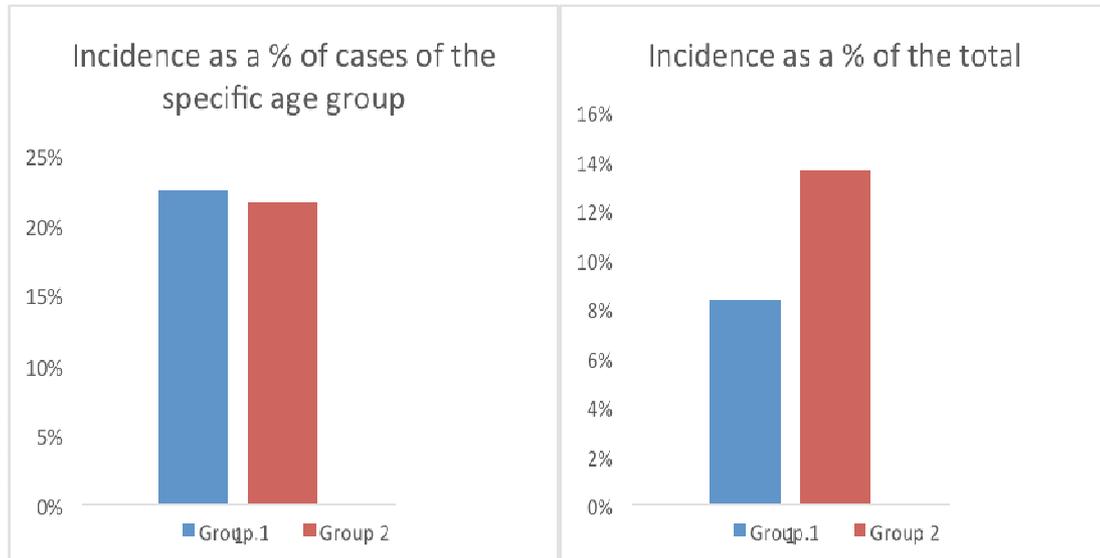
We have observed that the number of intraoperative complications (21% of the total no of operations) is lower than the number of post operatory complications (31% of the total number of operations).

Graph 4. Incidence by age:



The graph shows the share of incidence as a % of cases of the specific age group. Result shows that the higher the age the higher the probability of incidence. Setinberg et al.

Graph 5. Complications per group.



The overall rate of complications on intra and postoperative were 20% or 200 complications per 1000 operations. This incidence changed slightly differentiated by group of patients. The incidence of Group 1, the patients that made the examinations prior to the surgery, as a % of the totality of the group (925 patients) was 22%. On the other hand, the incidence as a % of the total number of operations was 8%.

In Group 2 patients that didn't made preliminary routine analysis the incidence as a 5 of the group (1575 patients) was 22%. The incidence as a percentage of the total number of patients was 14%.

Conclusions: Based on this simple observation, since we didn't observe significant difference between intra and post operatory complications, we can deduce that it is not necessary to ask routine tests on patients undergoing cataract surgery under local anesthesia. It is necessary to do physical examination and medical history before operation. Further more detailed statistical research has to be done in order to determine the correlation of prior medicaments and diseases and the age with post operatory complications.

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