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Are there any unwanted anesthesia symptoms in patients undergoing anesthesia?

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Abstract

Introduction. General anesthesia deprives the patient of consciousness and the abolition of sensation and reflexes. Undesirable post-anesthesia symptoms after surgery may affect all patient's body systems.

The aim of the study. The aim of the study was to assess the occurrence of undesirable symptoms of anesthesia in patients undergoing general and regional anesthesia.

Materials and methods. The study included 91 patients: 46 women and 45 men from different surgical wards. The method used in the work was the questionnaire interview.

Conclusions. The most frequently occurring post-operative symptom after anesthesia is pain in the surgical area. There is no dependence between the occurrence of undesirable side effects after general and ductal anesthesia and age. There is a dependence between the occurrence of adverse effects and sex. The most frequently performed anesthesia in the examined group of patients was general anesthesia and it carried more undesirable anti-anesthesia symptoms. There is a need for a deeper analysis of the causes of post-anesthesia side effects.

Key words: anesthesia, post –operative symptoms

Introduction

Despite the introduction of new methods of anesthesia and new drugs, currently there is no ideal method of anesthesia. The quality of perioperative care over the patient and the appropriately planned anesthesia determine the therapeutic results. The effectiveness of treatment is mainly related to the correct assessment of the disease and maintenance of appropriate pharmacotherapy, taking into account the possible interactions, complications, pharmacodynamics and pharmacokinetics of the drugs used.

Our activities should focus on targeted therapy and appropriate monitoring of the quality of services, which should result in a satisfied patient [1].

General anesthesia deprives the patient of consciousness and the abolition of sensation and reflexes. Ductal anesthesia is intended to break the conductivity in the sensory nerves by blocking nerves and nerve plexuses. [2]

Side effects of local anesthetics result from suppression of cellular conduction and occur within 5-10 minutes after the end of the injection. When administered intravenously, the reaction appears immediately. [3]

Undesirable post-anesthesia symptoms after surgery may refer to the respiratory system (e.g., breathing problems), cardiovascular system (e.g., incorrect blood pressure), urinary tract (e.g., diuresis), nervous system (neurological disorders, including disorientation, hallucinations, sensory disorders) and the digestive system (e.g., nausea, vomiting, thirst and dry mouth). In addition, patients also have body temperature disturbances and postoperative pain [4], including muscle pain, pain at the needle insertion site, severe headaches, pain in the lumbar region of the spine and at the needle insertion site to the spine, pain during medication and others [4,5].

In most cases, the complaints experienced by patients after surgery are associated with previous anesthesia and surgery. Patients usually complain of pain in the operated area after waking up, feeling cold, persistent nausea, sore throat, chills, vomiting, difficulty in breathing, muscle weakness, difficulty in swallowing, talking. However, the research shows that these ailments prevail in people after general anesthesia [5]. It is also worth remembering that uncomfortable postoperative ailments are heightened by the awakening of the patient with the tube in the throat (in the case of patients after endotracheal intubation). [4]

The aim of the study

The aim of the study was to assess the occurrence of undesirable symptoms of anesthesia in patients undergoing general and ductal anesthesia.

Materials and methods

The study included 91 patients: 46 women and 45 men staying in the following departments: neurosurgery, general and oncological surgery, minimally invasive and proctologic surgery and maxillofacial surgery. The research was carried out at the University Clinical Hospital in Wroclaw. The condition for participation in research was an operation performed within the last week, the patient's consent in the study and age over 18 years. The questionnaires were anonymous, which the patients were informed about at the beginning of the study. Patients could stop the study at any time.

The consent for conducting the tests was obtained from the managers of the above-mentioned clinics and branch nurses of the given departments.

The research was carried out by means of a diagnostic survey using an author's questionnaire, created for the needs of this study. The questionnaire contained 17 closed, one-choice questions. The survey was preceded by a short questionnaire containing questions about the age and sex of the respondent. In the main part, the questions concerned the type of anesthesia performed during the operation, the questions if it was the first patient's operation and experience after anesthesia in previous operations. The next questions concerned adverse effects that may have occurred after anesthesia.

The obtained results were analyzed statistically using Excel statistical measures and tests.

Results

The most numerous age group were patients over 60 years of age.

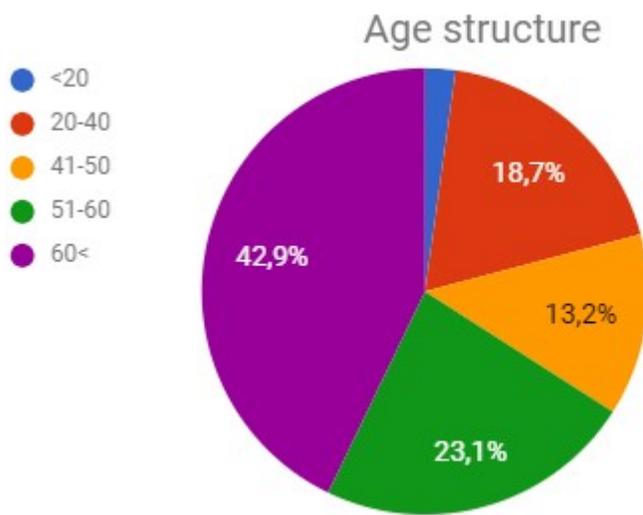


Figure 1. Age structure of the patients under study

Type of anesthesia	Response rate
General	80,22%

Ductal	19,78%
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Table 1. Type of anesthesia

In the study group, the majority of patients during surgery were subjected to general anesthesia of 80.22%, and 19.78% of patients under ductal anesthesia. For the first time, 42.86% of patients were operated on, 17% of respondents negatively assessed the experience after anesthesia in the previous operation.

The pain in operated place was felt by 83.7% of patients at the time of the study.

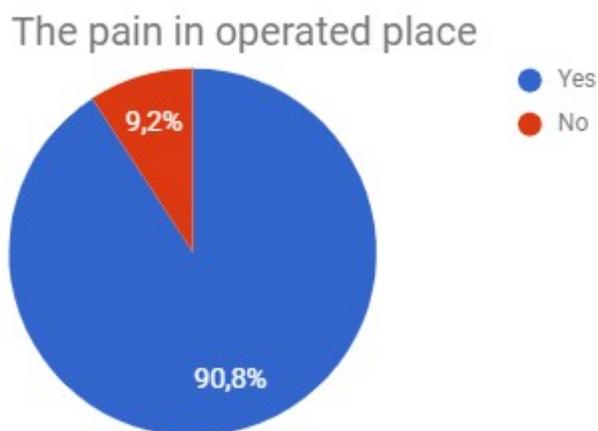


Figure 2. Pain located in operated place in all patients, regardless of the type of anesthesia used.

Only 11.4% of respondents reported that cold and chills were experienced as an adverse reaction after anesthesia. Nausea and vomiting occurred in 15.38% of subjects, nausea occurred in 9.89% and vomiting in 5.49%. People who did not experience nausea or vomiting constitute 64.23% of the subjects. In the next question about problems after inserting the endotracheal tube into general anesthesia, patients were asked about throat pain and hoarseness which hindered speaking and/or swallowing. 12.09% of patients reported hoarseness or sore throat making speech difficult, 14.29% hoarseness or sore throat making swallowing difficult, while none of the respondents experienced a sore throat or hoarseness that hindered swallowing and speaking. 64.84% of patients did not experience any sore throat or hoarseness. 8.79% of respondents had breathing problems after anesthesia.

Weakness and muscle pain were reported by 14.29% of respondents, 7.69% of patients experienced muscle numbness, muscle weakness and pain felt 3.30% and the remaining part (74.73%) did not report any adverse effects.

The dryness and thirst in the mouth were felt by 27.47% of people, increased desire is 5.49%, while dryness in the mouth and increased thirst was reported by 46.15% of respondents.

The remaining part (20.88%) did not report any problem.

In 9.89% of people there was a problem in urination. The bladder catheter was established in 26.37% of people, 62.64% of problems with urination did not occur.

30,77% of people complained of headache after anesthesia. The rest of the respondents, representing 69.23%, did not report the problem.

Pain in the place of needle insertion under the ductal anesthesia was felt by one person, which is 2.27% of the subjects. 81.82% of subjects do not concern this problem because they did not use ductal anesthesia.

26.37% of people reported confusion and disorder of consciousness immediately after the operation.

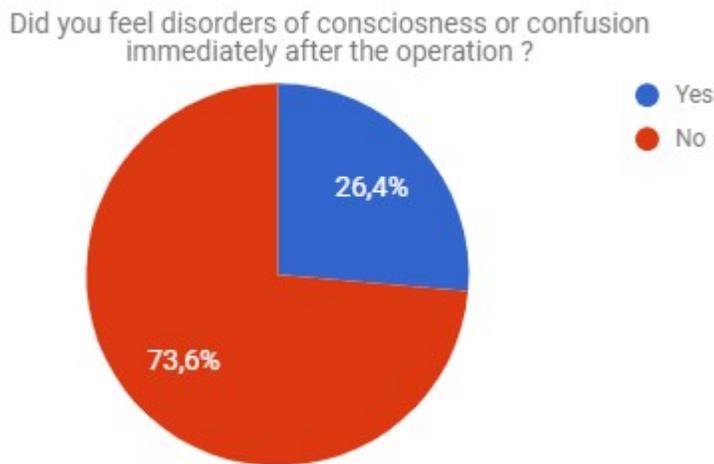


Figure 3. Disorder of consciousness and confusion in patients under the study.

Sensory disorders were experienced by 13.19% of people. Long-term drowsiness after surgery was maintained in 72.73% of people.

There is a dependence between the occurrence of side effects in women and men. This is particularly evident in the case of ductal anesthesia, where no woman feels pain in the operated place.

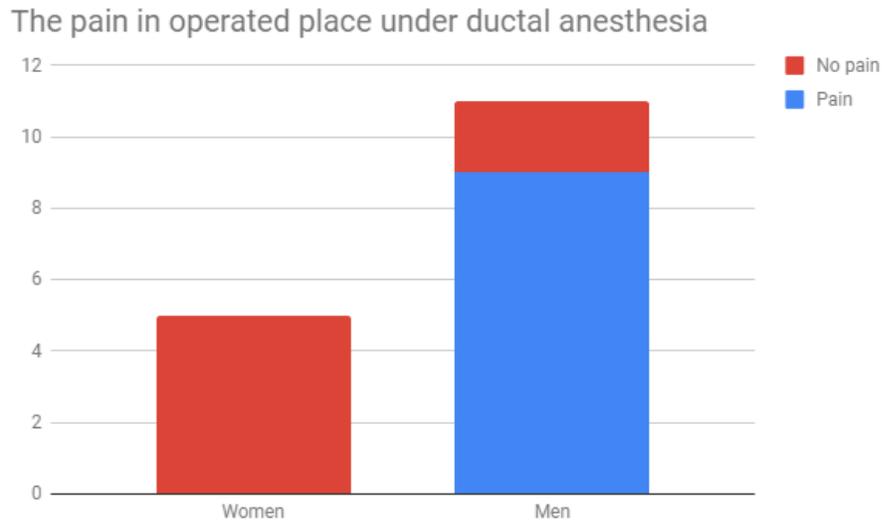


Figure 4. Pain located in operated place of the patients under ductal anesthesia.

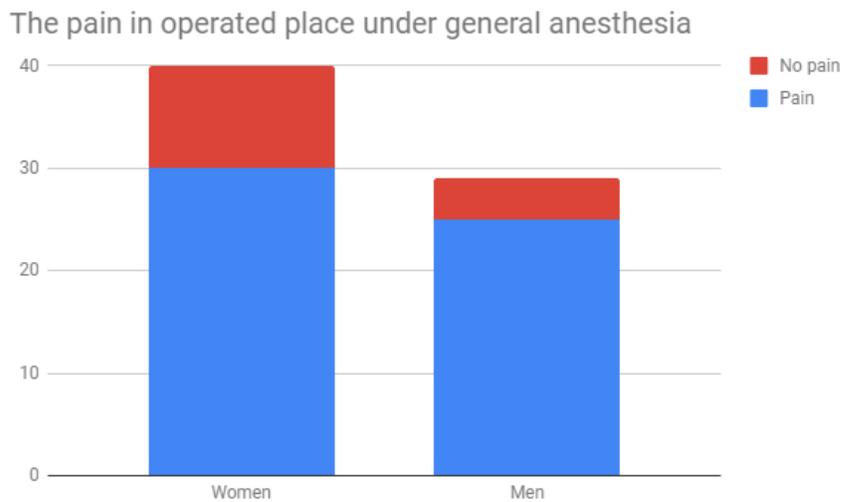


Figure 5. Pain located in operated place of the patients under general anesthesia.

In case of nausea and vomiting under general anesthesia, the differences between women and men are significant, as shown in the graph:

Nausea and vomiting after surgery under general anesthesia.

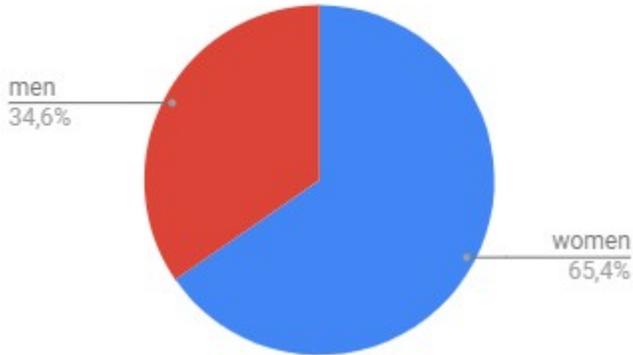


Figure 6. Nausea and vomiting after surgery under general anesthesia.

Women were much more likely than men to be sleepy after surgery under general anesthesia (65.4% women, 34.6% men).

Somnolence after surgery under general anesthesia.

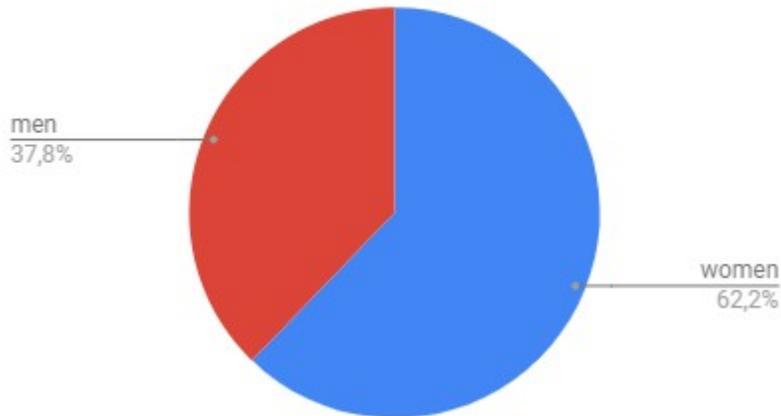


Figure 7. Somnolence after surgery under general anesthesia.

A significant proportion of women (59.3%) complained of dry mouth and increased thirst compared to men (40.7%).

Dry mouth and increased thirst after surgery under general anesthesia.

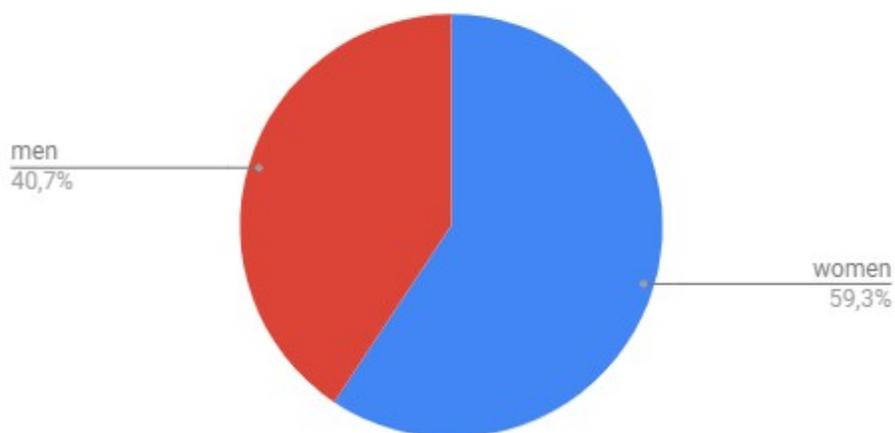


Figure 8. Dry mouth and increased thirst after surgery under general anesthesia.

The studied dependence of occurrence of side effects in given age groups was not confirmed, which means that the age of anesthetized person does not influence the occurrence of adverse effects after anesthesia. This is illustrated in the table below.

	>60 years old	51-60 years old	40-50 years old	20-40 years old
Pain located in operated place	74,35%	71,43%	91,65%	64,70%
Dry mouth or increased thirst	87,18%	71,00%	58,33%	64,70%
Urination problems	41,03%	19,05%	58,33%	29,41%
Disorder of consciousness immediately after surgery	20,51%	23,81%	33,33%	35,29%

Somnolence	61,54%	73,33%	66,67%	58,82%
Feeling cold, chills	12,82%	14,29%	0,00%	23,52%
Headache	20,51%	47,62%	33,33%	35,29%
Sore throat, hoarseness	41,03%	53,33%	25,00%	23,53%
Breathing problem	10,26%	14,29%	0,00%	5,88%
Weakness and pain of muscles	23,08%	19,05%	33,33%	41,18%
Nausea and vomiting	23,08%	33,33%	58,33%	17,65%

Table 2. The occurrence of adverse reactions depending on the age of the respondents.

Discussion

The analysis of the results of tests carried out among the patients after surgery performed under general and ductal anesthesia shows that the main undesirable symptom after general and ductal anesthesia is pain located in operated place, which is experienced by 76% of the examined group of people. The development of postoperative pain is a complex process consisting of the release of inflammatory mediators containing histamine, leukotrienes, prostaglandins, cytokines and others that increase hyperalgesia at the site of injury and surrounding tissues. Despite improvement in the understanding of the mechanisms of pain formation and the introduction of modern, safe analgesics and anesthesia techniques, the level of post-operative pain relief is not sufficient. [6]

By definition, pain is a subjective feeling, experienced individually. It applies to both the somatic and mental spheres. Effective control should be multidimensional. [7] The greatest intensity of pain occurs in the first days after surgery and gradually decreases. The intensity of pain depends on such factors as: patient's personality traits, age sex, type of surgery and pre-operative preparation. Responsibility for providing proper care in the field of pain management after surgery depends heavily on the nurse. [8] Headache after anesthesia in our subjects was reported by 30% of people. Effective control of postoperative pain allows you to reduce

suffering and increase the quality of life during this period. Effective pain relief reduces the risk of further complications such as nausea and vomiting, anxiety, thromboembolic processes or an increase in blood pressure [9].

During general anesthesia, the patient may experience a temperature drop, even up to 3 °C, depending on the amount and anesthetic, ambient temperature and the extent of the surgery. Hypothermia can cause a number of disorders of the body, which effects on pharmacokinetics of used anesthesia, the risk of post-operative wound infection, heart and circulatory system, and coagulation system. Hypothermia has been reported in 15.1% of patients undergoing general anesthesia; in 16.7% subject to ductal anesthesia. Patients reported a feeling of cold and/or chills in the post-operative room, immediately after the procedure. There were also measures to prevent the occurrence of hypothermia in patients [10].

One of the first symptoms in the perioperative period are vomiting and nausea. They are still a frequent undesirable symptom in the group of patients undergoing anesthesia. According to the authors, women are the most exposed to post-operative nausea and vomiting, which is confirmed in the conducted studies, as as many as 64.3% of people reporting nausea, vomiting or nausea and vomiting were women, while 35.7% were men [11].

Jałowiecki P. and coauthors assessed in their studies the quality of anesthesia based on the opinion of patients. They assessed: pain in the operated area after waking up, feeling cold after waking up, nausea, sore throat, shivering, vomiting, breathing difficulties, muscle weakness, difficulty in swallowing, difficulty in speaking, difficulty in urinating, muscle pain, waking up with the tube in the throat, pain in the venipuncture site, headache, thirst, dry mouth, lumbar spine pain, pain in the spine needle insertion, confusion, hallucinations, pain in drug administration, sensory disorder, pain during surgery. We compared the undesirable effects after anesthesia examined by us with results of P. Jałowiecki, R. Rudner and A. Tomala. The postoperative period is associated with many symptoms, especially those associated with general or ductal anesthesia. The pain in the surgical site is felt by 41.15% of patients, however in our research the percentage of people experiencing pain is 91%. The sensation of cold felt 30.86%, while 14.29% of the patients we examined reported this condition. In 16.05% of patients vomiting occurred, in our study 5.49% complained of this complication after anesthesia. Nausea reports 20.58%, and this condition was reported by 9.89% of patients included in our study. We

also assessed the simultaneous occurrence of nausea and vomiting after anesthesia, 15.38% of respondents reported these side effects. People who do not feel nausea or vomiting constitute 69.23%. In the studies of the authors mentioned above, there is a difficulty in breathing in 15.23% of patients, and in our research, 8.47% of subjects report this condition [11]. Difficulties with swallowing and speaking and hoarseness mainly occur in patients after general anesthesia and are the result of intubation tubes placed in the trachea during anesthesia. Our own research coincided with the reports of other authors. The problem with passing urine after anesthesia in the authors reported was 8.23%, in our study 9.89% of patients. 26.37% of patients had a bladder catheter inserted. Headache reported 4.94%, while in our study 30.77% reported these pains. Feeling thirsty and dry in the mouth, the authors define 4.12% in their studies, however, in our patients 25% of dry mouths are felt, 5% are more intensely thirsty, and 42% of people feel dry mouth and thirst. The occurrence of disturbances of consciousness and confusion is another adverse event that occurs after anesthesia. In 1.65% of patients, the authors recorded hallucinations and consciousness disorders. In own studies, as much as 26.37% of patients felt confusion and disturbances of consciousness. Sensory disorders occurred in 1.23% of respondents, in our questionnaires 13.19% of patients reported these disorders. [10]

Conclusions

1. The most common postoperative adverse reaction after anesthesia is pain in the surgical area.
2. There is no dependence between the occurrence of unwanted side effects after general and ductal anesthesia and age.
3. There is a dependence between the occurrence of adverse effects and gender.
4. The most frequently performed anesthesia in the examined group of patients was general anesthesia and it carried with it more undesirable post-anesthesia symptoms.
5. There is a need for a deeper analysis of the causes of post-anesthetic side effects.

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