

The frequency and structure of complications in surgical removal of the germs of third molars in children and adolescents in a hospital

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Introduction. Surgical removal of the germs of third molars due to recommendation of the orthodontist is one of the most common planned oral surgical procedures which are carried out in a hospital [3]. However, various complications often arise both during and after the procedure [2].

The aim of the study was to evaluate the structure and frequency of complications arising from the operation of removing the germs of third molars.

Material and methods. We have analyzed 93 case histories of patients patients who underwent removing the germs of third molars in the department of maxillofacial surgery of the 4th City Children's Clinical Hospital (Minsk, Republic of Belarus). The sex and age of the patients, the duration of the procedure as well as the number of hospital days were studied. Soft tissue edema in the jaw area, painful mouth opening and swallowing were evaluated during the postoperative period.

Four tooth germs (18,28, 38, 48) were removed in 61 (65.6%) patients, two tooth germs (38, 48) - in 28 (30.1%) patients, three tooth germs (38, 48 and 18 or 28, since one of the germs of the third molars in the upper jaw was absent) were removed in 4 (4.3%) patients.

The operation of removing the germs was carried out under general anesthesia (inhalation endotracheal anesthesia). In the case of an unfavorable location of the germ (horizontal position of the germ with an emphasis in the distal root of the second molar, sharp predominance of the size of the germ over the size of the retromolar space) the tooth was sawn and removed in parts [1]. In the postoperative period, patients received cold according to the scheme, injectable painkillers (diclofenac sodium at age dosage), alkaline inhalations,

magnetotherapy and cheeks massage. Complex antibacterial drugs were prescribed in cases of long-term (more than 60 minutes) and severe removal, as well as in complications during the operation. All patients were instructed in individual oral hygiene.

Results. We have established that the age of patients ranged from 11 to 17 years (15 years on average). Female patients were more than male - 76.3% (71 persons) against 23.7% (22 persons), $p < 0.01$.

The duration of the operation of removing the germs of third molars was ranging from 40 to 140 minutes (66.9 minutes on average) and depended on the location and number of teeth germs to be removed. Surgical removal of two germs of third molars it was necessary needed 53.5 minutes on average, three - 61.3 minutes, four - 73.3 minutes. Less time to remove the germs of third molars was required with a favorable location of the germs (vertical and close to the crest of the alveolar process position) and more time was required if complications arose during the procedure.

The table shows the structure of complications that occurred both during the surgical removal of the germs of third molars and in the postoperative period.

The most common complications (100% of cases) in the postoperative period were painful swallowing and maceration of the skin and mucous membrane in the corners of the mouth.

In addition, 89 patients (95.7%) noted painful mouth opening and 84 patients (90.3%) complained of postoperative pain in the wound area, which was requiring pain medication for 5-6 days. Soft tissue edema in the mandibular region was noted in 88 (94.6%) patients, and a slight swelling of soft tissues was observed even a week after discharge from the hospital for outpatient treatment.

Suppuration of the bone wound has been developed in 9 (9.7%) cases, which, apparently, was associated with insufficient cooling and bone trauma during the surgical procedure and disregard to individual oral hygiene by the patients in the postoperative period.

Paresthesia of the n. alveolaris inferior was revealed in 2 (2,2%) cases after the operation. Physiotherapy was carried out in such patients and restoration of the sensitivity has required 1 month.

Table - Structure of complications during the operation of removal of the rudiments of third molars in children and adolescents

№	Type of complication	Frequency of complication	
		cases	%
1	Drill fracture with ingress(intrusion) into soft tissues	1	1,1
2	Pushing the germ of the third molar into the maxillary sinus	1	1,1
3	Paresthesia of the n. alveolaris inferior	2	2,2
4	Suppuration of bone wound	9	9,7
5	Pain in the wound region	84	90,3
6	Swelling of soft tissues	88	94,6
7	Painful mouth opening	89	95,7
8	Painful swallowing	93	100
9	Maceration of the skin and mucous in the area of the angles of the mouth	93	100

Other complications during the surgical procedure were the following: drill fracture with its intrusion into soft tissue at the area of the lower second molar (X-ray was performed, drill fragment was found and removed) and pushing the germ of the third molar into the maxillary sinus due to the high position of the germ and the thin cortical plate of the sinus bottom (the germ was found and removed).

The number of hospital days was 8.6 days on average with possible prolongation of the period due to the previously considered postoperative complications.

Thus, all of the above requires from the orthodontist to determine absolute indications for the removal of the germs of the third molars, from the maxillofacial surgeon – to operate carefully with appropriate tools and equipment to minimize bone traumatization and from the patient – to follow the recommendations of medical staff and to provide good oral hygiene.

References:

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