

## PURULENT BONE DISEASES CONDUCTIVE ANESTHESIA COMPLICATIONS

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An investigation of 538 patients with hand purulent diseases was carried out. A various novocaine concentration solution was implemented within a surgical interference. The control group patients took a conductive therapy with 2% solution, and the main group patients were treated with 1% solution, usage of which is more reasonable because of the complication lack within an anesthesia implementation.

**Keywords:** hand, phlegmon, anesthesia, novocaine

Acute purulent bone diseases (PBD) take one of the leading parts in surgical practice: frequency of hand felons and phlegmons vacillates from 15-18% to 20-30% [1, 4].

The correctness of implemented conductive anesthesia, regardless of in seeming simplicity, has a great influence on the disease flow dynamics. In literature one can find examples of skin necrosis and finger gangrene after usage of novocaine in combination with antibiotics and adrenalin usage [2, 3].

**The objective** of our research is: studying of the results of various concentration novocaine solution usage for patients with hand purulent diseases.

### Materials and methods of research

Within the period of 2009-2011 in the purulent surgery division 538 patients with hand purulent diseases were treated. Among the patients the biggest part belonged to men within an age of 18-20 years old, women, because of the military specificity, equaled 6 (1,1%) cases. According to nosological forms the patients were divided as follows: felons – 277 (51,5%), abscesses – 147 (27,3%), and phlegmonas – 114 (21,2%) of the observations.

With felons most often the first hand finger suffers most – 127 (45,8%), the second – 97 (35,0%), the third – 41 (14,8%). More rarely lesions of the fourth and the fifth finger are registered – 9 (3,2%) and 3 (1,1) correspondingly. It can be explained by the greater functional strain and trauma frequency of the first three hand fingers. Ungual phalanx lesions was registered in 228 (82,3%), middle – 28 (10,1%), main phalanx – 21 (7,6%) of the observations. Within 10 (3,6%) of the patients a simultaneous lesion of two phalanx was registered.

In 147 (85,5%) of the observations abscesses were localized on a hand, within 115 cases (78,2%) – on a palm, and in 32 (21,8%) observations – on back surface. With phlegmonas a back hand surface was affected in 103 (90,4%) of cases, and palm – within 11 (9,6%) patients.

With felons in the main group ( $n = 173$ ) under operative interference 6,0–8,0 ml of 1,0% of novocaine solution was used, the second group patients ( $n = 104$ ) were treated with the same quantity of 2,0% novocaine solution. With ungula phalanx lesions within 228 patients (82,3%) a conductive anesthesia was implemented without placing a garrot on the main phalanx (if necessary, a pneumatic cuff was placed on a forearm).

Within the control group with abscesses in 37 (23,6%) cases and phlegmonas in 16 (10,2%) observations a local infiltration anesthesia by 10,0–30,0 ml of 0,5% novocaine solution was carried out. In the main group within 110 (28,9%) patients with abscesses and in 98 (25,7%) observation with phlegmonas, as well as under purulent process of the main and middle phalanx in 49 (17,7%) observation a conductive anesthesia by 3,0–5,0 ml of 1,0 novocaine solution on radiocarpal joint level, perineural to the middle, beam, and elbow nerves was implemented.

### Results of research and their discussion

The anesthesia effect time in the main group equaled  $6,5 \pm 1,34$  minutes, and in the control group –  $6,9 \pm 1,08$  minutes. In all observation an anesthesia period was sufficient for an implementation of full surgical interference. In the main group no complications under anesthesia were registered. In the control group a finger angiospasm signals (skin whitening and lack of blood flow from the surgical wound) were registered with two women after the end of surgical interference. It provided for the reason of complex treatment of this complications (rheopolyglucene, trental, heparin, spasmolitics) and their dynamic tracking in the surgical hospital; conditions. After the implemented treatment angiospasm signes were removed and these complications did not affect the treatment results

**Summary:** thus, an implementation of 2,0% novocaine solution for conductive finger anesthesia under purulent – lesion diseases can lead to an angiospasm occurrence, and lead to a heavier complications and further hand disfunction without an opportune diagnostic.

### References

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