CHANGES IN WHITE BLOOD CELLS COUNT (WBCC) DURING LABOUR - WITH AND WITHOUT ANALGESIA - A COMPARISON

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The recent research on revealing the mechanisms of stress showed that although the clinical representation of stress is almost the same its pathogenesis is different. This made it possible to classify stress upon etiopathogenetic basis. According to this classification there are 18 types of stress, among which the stress during pregnancy and labour (4). The investigations of various authors (1,3-6) show that in stress there is a change in the WBCC, mainly polymorphonuclear leukocytosis, lymphopenia and eosinopenia. On the other hand, it is known that the anesthetics - intravenous and inhaled, do not lead to stress. Moreover, they reduce and slow down this reaction, although it is not possible to avoid it (2).

Our aim was to study the changes in WBCC during labour, as far as these changes may serve as an indicator for the reaction of organism in stress, and at the same time to study the influence of ketamine upon this reaction.

A total of 21 women, aged 18-29 years, with normal pregnancy and labour were treated with ketamine (0,8-1,0 mg/kg i.m). The blood samples were collected during labour, 24 h and 48 h later. The control group included 10 women.

We accepted as normal the following values (2):

- Leukocytes (Le) - 4-9.10^9
- Neutrophils (Neu) - 46-76%
- Segmented neutrophils - 51-67%
- Band neutrophils - 0-3%
- Monocytes (Mo) - 4-8%
- Eosinophils (Eo) - 0-4%
- Lymphocytes (Ly) - 23-40%

The results of our study show that in 95,2% of all women (20) there was a change in WBCC. In the group of women treated with ketamine the level of leukocytosis is high (mean value of 14,000 ± 500) during labour. Twenty-four hours later this value is still above the normal one (12,000 ± 100). Their value is normalized only after 48 h. The segmented neutrophils reach values up to 75 ± 4% during la-
bour, 71 ± 2% on the 24th h, and 63 ± 1% on the 48th h. According to the results, the eosinophils are 0 ± 1%, the lymphocytes are strongly reduced during labour - 11 ± 3%, on the 24th h - 23 ± 1%, and on the 48th h - 28 ± 5%. The change in monocytes rate is insignificant.

The analysis of the data in the control group of women shows leukocytosis up to 16000. The percentage of segmented neutrophils is 80 ± 2%, eosinophils 0%, lymphocytes 10 ± 2%, band neutrophils 10 ± 1%, monocytes 2 ± 1%.

The comparison of data of both groups shows more significant changes in the group of the non-analgesied women. It can be accepted that although ketamine could not prevent the changes in WBCC, they were reduced to a certain extent. If WBCC and the changes in it may serve as an indicator of the reaction of organism in stress, it can be concluded that ketamine has helped the organism to adapt to the stress reaction during labour.