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# SOME ASPECTS OF TRAUMA DURING CHILDBIRTH IN PREGNANT WOMEN WITH CHRONIC INTRAUTERINE INFECTION

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**Abstract:**

This article provides the deep analysis on theoretical and legal aspect of evidences in international investment arbitration process. The main focus of this paper is to examine the burden of proof, the process of submission of evidences in investment arbitration process and study the experience of that process in Sweden and the Arbitration Institute of the Stockholm Chamber of Commerce.

**Keywords:** Investment, Arbitration, Evidence, Alternative Dispute Resolution, International Private Law, Stockholm Chamber of Commerce, Sweden, Burden of Proof, Disclosure, Arbitrators.

It is known that trauma to the birth canal is the cause of postpartum hemorrhage and ranks second in frequency of occurrence after hypotonic hemorrhage. According to various studies, the incidence of cervical rupture during childbirth ranges from 5 to 30% [1,2,6]. In the Republic of Uzbekistan today, birth trauma and issues of preventing birth trauma are of high relevance not only in terms of reducing maternal mortality, but also in terms of studying possible complications. The implementation of protocols for the prevention and control of postpartum hemorrhage is of great importance. Among the causes of postpartum hemorrhage, trauma-rupture of soft tissues is of particular importance. Soft tissues, in particular the cervix, are exposed to the greatest traumatic effects. The wounds formed as a result of rupture of the cervix create favorable conditions for infection, which in turn leads to the occurrence of a local inflammatory process, i.e. cervicitis, which can contribute to the transition of the inflammatory process to the internal genital organs [1,2]. It is possible that in the future, cervical ruptures, regardless of the degree of wound healing, can lead to changes in anatomical and functional nature. It has been established that an untreated rupture heals by scarring, the cervix is deformed, the cervical canal is not formed, the exposed anterior and posterior lips diverge, ectropion is formed, the mucous plug in the canal cannot be retained, which contributes to the disruption of the barrier function against the penetration of infection into the uterine cavity. Taken together, this leads to the occurrence of long-term follicular-papillary erosions [1,3,6]. However, not every cervical injury during childbirth has clinical significance, i.e. complications do not always occur in the near or distant future. In this regard, studying the condition of the cervix after rupture during childbirth is important.

**THE PURPOSE** of the work was to determine the characteristic clinical and histological features of the cervix after its rupture during childbirth.

**MATERIAL AND RESEARCH METHODS**. 82 postpartum women with cervical rupture during childbirth were examined. The women were aged from 19 to 36 years, the average age was 26.8±6.26 years. Of the total number of postpartum women, 80.5%, i.e. the majority were primiparous. In 64.6% of cases, degree I cervical rupture was diagnosed,
in 35.4% of cases - II degree. The causes of cervical rupture were premature straining - 31.7% of cases, a history of abortion - 28.0% of cases, the presence of infections in the uterus - 25.7%, a combination of 2 reasons - 8.5% of cases, 3 reasons - 6.1% of cases. The control group consisted of 25 women of similar age, but without cervical rupture during childbirth. Cervical ruptures were diagnosed during examination of the birth canal in the early postpartum period. The examined women had anamnesis data regarding past gynecological diseases, and
also the course of pregnancy. Biopsy samples obtained by biopsy during colposcopy were subjected to histological examination. When performing a biopsy, the cavity of the mucous membrane of the cervical canal was curetted. Subsequently, the macropreparation was fixed, embedded in paraffin, after which ultrathin sections were prepared from it, which were placed on glass slides, the paraffin was removed, and the microspecimen was stained with hematoxylin-eosin and viewed under different microscope magnifications. Interpretation of microscopy results was carried out according to the CIN and Bethesda classification system [4,5].
Statistical processing was carried out using the program "Statistica for Windows" v.6. The difference was

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assessed as significant if the probability of possible error was >0.05.

**RESEARCH RESULTS AND DISCUSSION.** Clinical studies have shown that the age of the majority of the examined women in labor was optimal for childbirth (25-30 years). Extragenital diseases occurred in 55 (67.1%) postpartum women. These were mainly diseases of the urinary system, endocrine diseases and diseases of the respiratory system. According to the anamnesis, 65 (79.3%) of the examined women suffered gynecological diseases. Analysis of the structure of gynecological diseases showed the predominance of inflammatory diseases. In postpartum women with cervical rupture, gynecological diseases such as cervicitis and cervical ectopia were 2.8 and 2.4 times more likely to occur, compared with the control group (Table 1).

**Table 11. Clinical characteristics of the examined postpartum women**

| Index | Main group (n=82) | Control (n=25) |
|---|---|---|
| Age, years<br>19-24<br>25-30<br>31-36 | <br>18 (22%)<br>42 (51,2%)<br>22 (26,8%) | <br>6 (24%)<br>13 (52%)<br>6 (24%) |
| Primipara:<br>Primigravidas, primigravidas, multigravidas<br>primiparous | <br>66 (80,5%)<br>36 (43,9%)<br>30 (36,5%) | <br>19 (76%)<br>11 (44%)<br>8 (32%) |
| Multiparous | 16 (19,5%) | 6 (24%) |
| Extragenital diseases:<br>cystitis, pyelonephritis<br>goiter, overweight<br>ARVI, tonsillitis, rhinitis, bronchitis<br>allergy<br>gastritis, colitis | <br>55 (67,1%)*<br>10 (12,2%)*<br>10 (12,2%)<br>24 (29,3%)*<br>7 (8,5%)<br>4 (4,9%) | <br>7 (28%)<br>1 (4%)<br>-<br>4 (16%)<br>2 (8%)<br>- |
| Gynecological diseases:<br>colpitis<br>salpingo-oophoritis<br>cervicitis<br>cervical ectopia<br>inflammatory problem + ectopia | 65 (79,3%)*<br>9 (11,0%)<br>9 (11,0%)<br>28 (34,1%)*<br>8 (9,8%)*<br>11 (13,4%)* | 9 (36%)<br>2 (8%)<br>2 (8%)<br>3 (12%)<br>1 (4%)<br>1 (4%) |

As can be seen from the table, the most common pathology was inflammatory diseases of the urinary tract, cystitis; pyelonephritis was noted in 67.1% of women in the main group and 28% in the control group. Respiratory infections were noted in 29.3% of cases in the main group. Apparently, the unfavorable infectious background caused the pathological course of labor, which was realized in the high frequency of prenatal rupture of amniotic fluid, which amounted to 29% in the main group. In the anamnesis, 65 (79.3%) patients in the main group and 36% in the control group had a high frequency of gynecological diseases. In terms of occurrence, the most common pathology was chronic civicitis (34.1%); inflammatory diseases of the uterine appendages in 11% and combined pathology of the cervix ectopia in 13.4% of cases in the main study group. Given the unfavorable medical history, special attention in the study was given to the study of complications of this pregnancy. Complicated pregnancy was noted by 53 (64.6%) women in the main group and 7 (28.0%) women in the control group (Table 2).

**Table 2**
**Frequency of occurrence of pregnancy complications in the examined groups**

| Index | Main group (n=82) | Control group (n=25) |
|---|---|---|
| Mild preeclampsia | 20 (24,4%) | 4 (16,0%) |
| Threat of miscarriage | 12 (14,6%) | 3 (12,0%) |
| Isthmic-cervical insufficiency | 8 (1,21%) | - |

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| | | |
|---|---|---|
| Anemia | 22 (26,8%) | 1 (4,0%) |

From the data presented in the table it follows that women in the main group had mild preeclampsia significantly more often (24.4%). In the main group, anemia was detected more often (26.8%). Signs of polyhydramnios according to ultrasound data were noted by 28% of the main study group.

The duration of labor in the examined group patients ranged from 6 hours 20 minutes to 12 hours 45 minutes and averaged 8 hours 50 minutes. There were no significant differences between the groups. Analysis of the duration of labor showed that in the main group of postpartum women, rapid labor was observed in 15 women (18.3%), and in the control group - in 2 (8.0%) women, i.e. 2.3 times less often. Prolonged labor (over 12

hours) occurred in 22 (26.8%) and 1 (4.0%) postpartum women in the main and control groups, respectively. The course of labor was complicated by weakness of labor, which occurred in 35 (42.7%) women of the main group. At the same time, primary weakness was observed in 22 (26.9%), secondary weakness - in 13 (15.8%) women in labor. Discoordination of labor developed in 6 (7.3%) women in labor in the main group. Induction of labor was performed in 12 (14.6%) women in the main group and 1 (4.0%) in the control group, i.e. 3.6 times more often in postpartum women of the main group. The indication for induction of labor was prenatal rupture of amniotic fluid and a prolonged latent period. Childbirth in the control group proceeded without complications.

The duration of the anhydrous interval averaged 8 hours 50 minutes ± 22 minutes in the main group and 3 hours 55 minutes ± 15 minutes in the control group. As part of the study, in the postpartum period, the birth canal was examined, it was noted that cervical ruptures of the 1st degree in 53 (64.6%) women in the main group were asymptomatic, bleeding was noted in 29 (35.3%) women with cervical ruptures of the 2nd degree. . Bleeding varied in intensity from slight in 19 (23.2%) to heavy in 10 (12.2%) women. Histological examination of biopsy specimens revealed cellular changes in all 82 (100%) postpartum women with cervical rupture, and in 5 (20.0%) in the control group. According to the CIN and Bethesda classification system, minor or benign cellular changes were inflammatory changes, i.e. All postpartum women with cervical rupture had inflammatory changes, and in 63.4% of cases there were areas of necrosis. In the control group, inflammatory changes were observed in women who had received treatment for cervicitis before this pregnancy. No necrotic areas were noted in the microslides of this group.

The results obtained once again confirmed that cervical ruptures are a favorable condition for infection, as evidenced by the predominance of inflammatory processes in the exocervix. Our data are consistent with the results of other researchers [1,3].

Thus, based on our results, it has been established that cervical rupture is more often observed in primigravidas and primigravidas. It was revealed that cervical rupture is most favored by the presence of extragenital diseases, especially diseases of the respiratory, urinary system and endocrine diseases. To a large extent, the risk factor for cervical rupture was previous gynecological diseases, especially diseases of the respiratory, urinary and endocrine systems. Complicated pregnancy also affects the formation of cervical rupture, as evidenced by the significantly high incidence of inflammatory diseases of the urinary tract and isthmic-cervical insufficiency in postpartum women of the main group. One of the reasons contributing to the formation of cervical rupture is the long duration of the anhydrous interval.

Histological structure of the cervix after its rupture during childbirth. Cervical ruptures are dangerous not only because they cause bleeding, but are also a source of ascending infection in the postpartum period. Bleeding from the cervix usually occurs from arterial branches. In this case, the blood is bright red, and it differs from venous blood flowing from the vessels of the uterus. All this can subsequently lead to cicatricial deformation, which can contribute to cervical inversion, the development of pseudo-erosions and other background conditions for cervical cancer. Studies have shown that the main clinical signs of the risk of developing cervical rupture during childbirth are a combination of first birth, aggravated extragenital and gynecological history, complicated pregnancy, and a long anhydrous interval. Histological signs are inflammatory changes. Thus, during clinical observation during pregnancy, it is advisable to carry out infectious screening and sanitation of the genital tract, and after childbirth - examination of the cervix.

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