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Improving the Tactics of Managing Women in Labor with Soft Tissue Injuries of the Birth Canal

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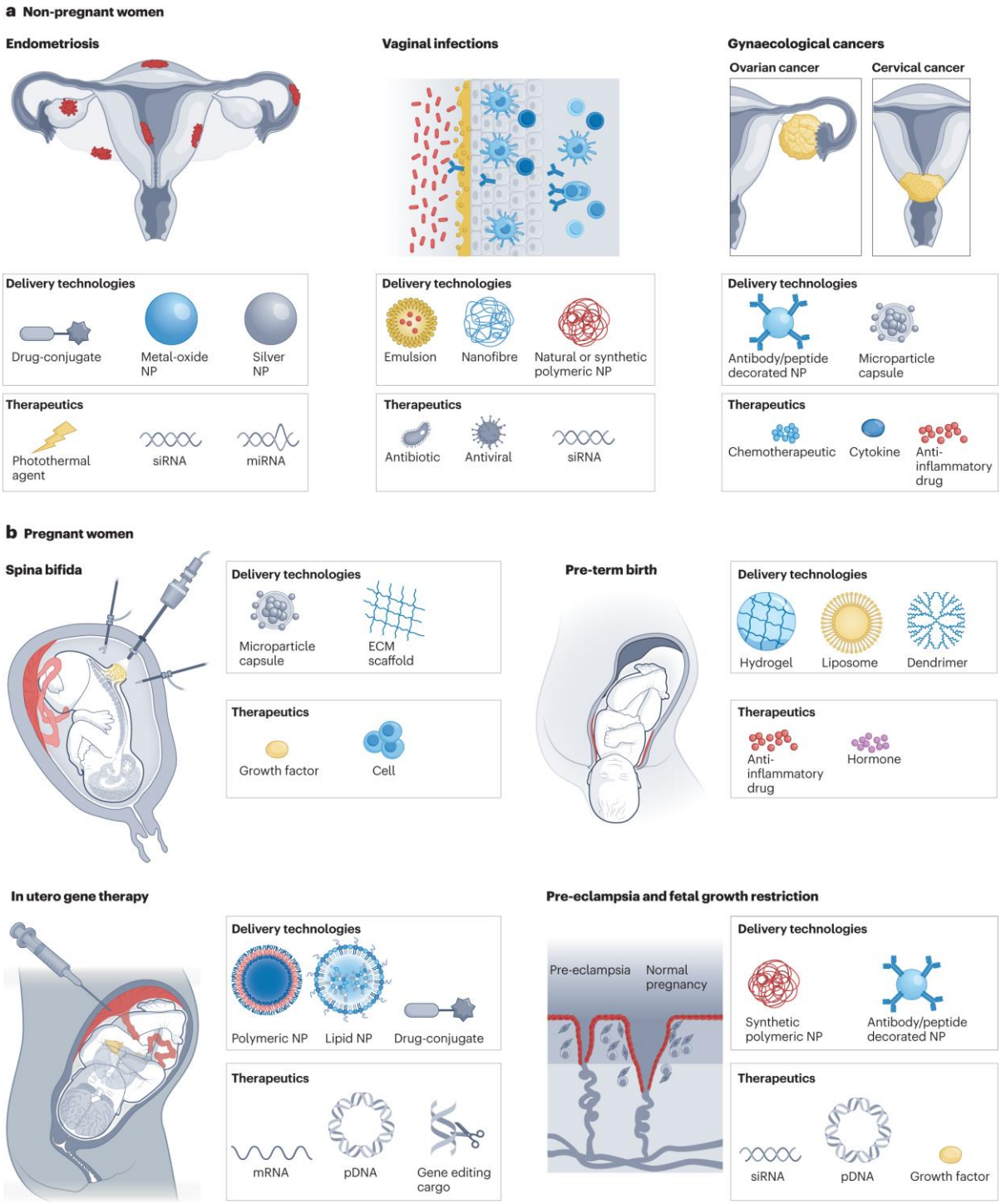
Abstract: We examined 98 postpartum women with injuries of the soft tissues of the birth canal, who were divided into two groups depending on the method of treatment. Postpartum women in the comparison group received generally accepted methods for treating sutures, and the combined drug Depantol was included in the complex of treatment measures for patients in the main group. Depantol contains an antibacterial component and dexpanthenol, which stimulates the regeneration of mucous membranes, normalizes cell metabolism, accelerates mitosis and increases the strength of collagen fibers. The effectiveness of various treatment methods was assessed on the basis of clinical data, laboratory studies of wound secretion, as well as the detection of TLR (toll-like receptors) receptors in blood and wound secretion. The study shows that the inclusion of Depantol in the complex of therapeutic measures provides a more favorable course of the postpartum period and reduces infectious complications.

Keywords: birth trauma, infectious complications, antibacterial effect of depantol, regeneration.

Introduction.

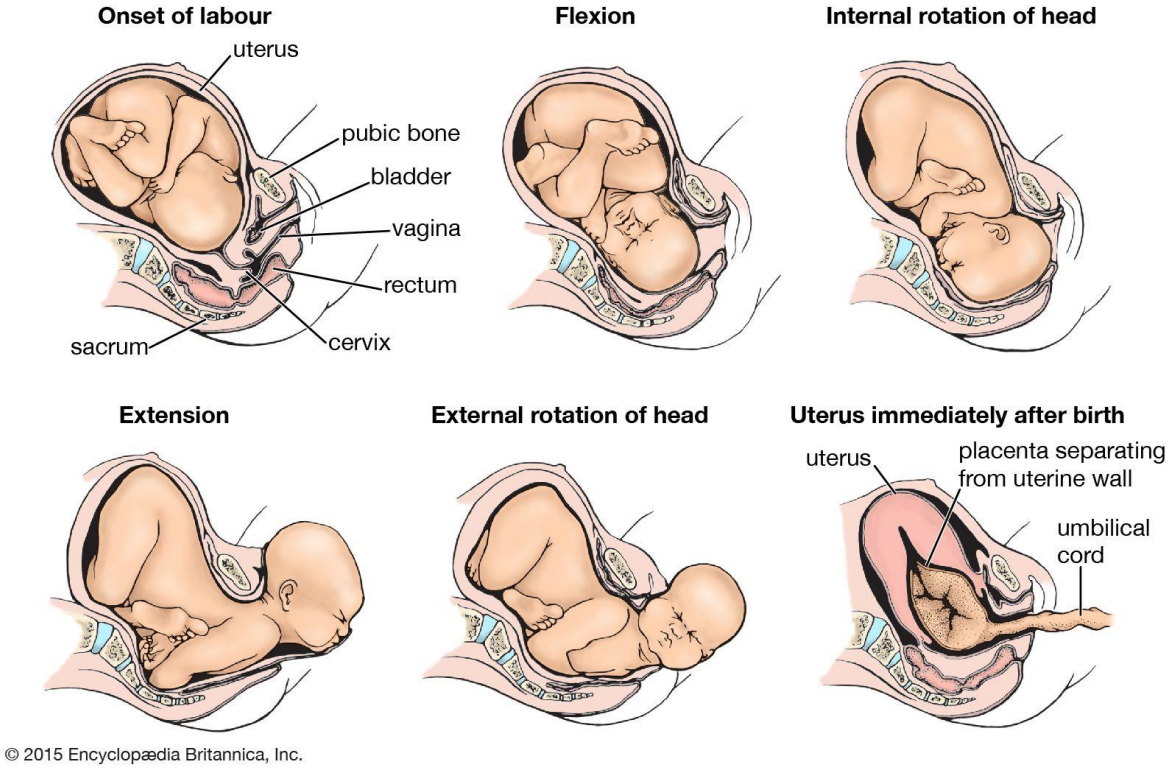
The postpartum period is primarily a period of high risk of developing infectious complications [1, 5, 9, 11]. This is due to the state of temporary immunodeficiency in all postpartum women and the presence of a wound surface in the uterus (placental site) or in the area of rupture of the soft tissues of the birth canal [2, 3, 6. , 7, 10, 12]. A large amount of research has been devoted to the prevention and development of new methods of treatment of postpartum endometritis, and certain results have been achieved. As for birth trauma, if its severe forms (uterine rupture) occur, then, as a rule, it is the uterus that has undergone surgery, but the frequency of injuries to the soft tissues of the birth canal, unfortunately, does not tend to decrease. On average, in Russia, injuries to the soft tissues of the birth canal complicate every fifth birth. In the general population of newborns, the incidence of perineal ruptures is 10-12%, and vaginal ruptures are 12-15% [8]. It should be noted that even a small rupture of the perineum, which changes the anatomy of the vaginal opening, subsequently leads to a violation of its biocenosis. The incidence of cervical rupture, according to different sources, varies significantly, so

Ruptures of the soft tissues of the birth canal, as a rule, are not fatal, but they have a very negative impact on the reproductive health and quality of life of a woman. At the same time, in 19.3% of postpartum women they become infected, which leads to suture separation, suppuration, healing by secondary intention, as well as the formation of functional insufficiency of the pelvic floor muscles, prolapse and prolapse of the pelvic organs. [8]. Traumatic 2-3 years after birth, ectropion and cervical leukoplakia, urinary incontinence, decreased libido, dyspareunia, and anorgasmia may develop.



However, the management of women who have given birth with soft tissue injuries of the birth canal has not changed much for many years. Traditionally, manganese and, if necessary, hydrogen peroxide are used. In the postpartum period, an association of microorganisms predominates among the causative agents of infectious complications, which necessitates the use of broad-spectrum agents. In addition, the difficulty of choosing a drug is also due to the fact that not every drug can be used in the postpartum period. Obstetricians can use only those drugs whose annotations contain permission for use during lactation.

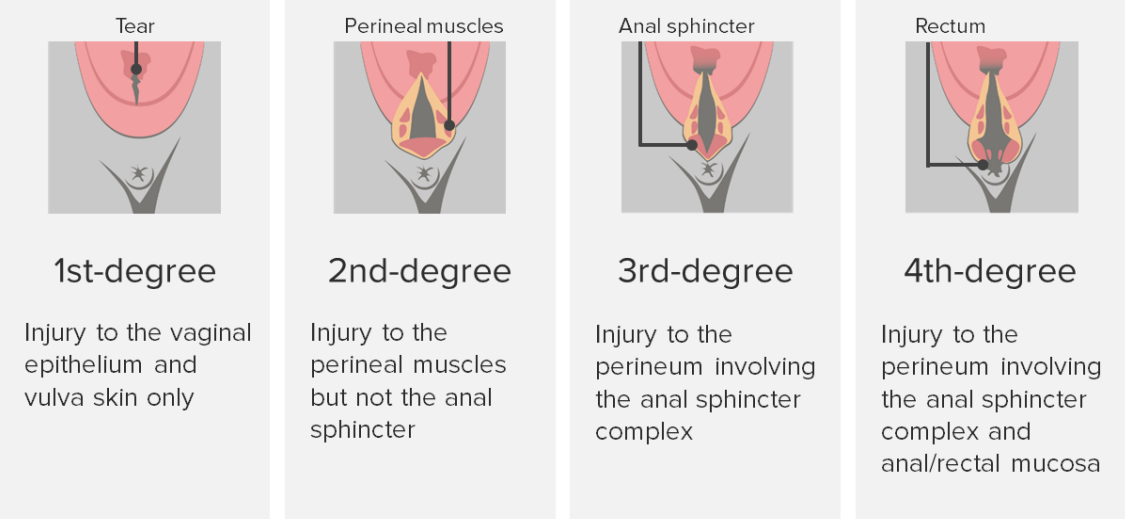
Currently, it is emphasized that the most effective way to prevent infectious complications of the postpartum period is early delivery, which should be carried out 3-5 days after birth. Obviously, this period is not enough to heal soft tissue injuries of the birth canal. Therefore, it is urgent to look for means of healing the vagina / perineum, cervical sutures, which can be continued at home, if necessary.



Our attention was drawn to the drug Depanthol, which meets these requirements and is available in the form of vaginal suppositories. The active ingredients of Depanthol are chlorhexidine and dexpanthenol. Both substances are widely used in world medical practice: chlorhexidine as a broad-spectrum antiseptic drug, active against both gram-positive and gram-negative bacteria; dexpanthenol as a stimulator of mucosal regeneration normalizes cell metabolism, accelerates mitosis and increases the strength of collagen fibers. This composition is unique and allows you to avoid the previously accepted tactics of using regenerating ointments after sanitation. The drug is non-toxic, approved for use during lactation and remains effective in the presence of blood. The aim of this study was to improve treatment by including the combined drug Depanthol in the complex of measures for the treatment of postpartum women with soft tissue injuries of the birth canal.

MATERIALS AND RESEARCH METHODS

The subjects of the clinical study were 98 postpartum women with soft tissue injuries of the birth canal. Inclusion criteria: age from 18 to 41 years, injuries of the soft birth canal that occurred during childbirth, sutured ruptures of the vagina and / or perineum and / or cervix. In addition, the group of patients included patients with perineal dissection, since the management of postpartum women after this operation does not fundamentally differ from the management of women with perineal rupture. Exclusion criteria: the presence of syphilis, gonorrhea, chlamydia, trichomoniasis, genital warts and genital herpes (with obvious manifestations).



Using a random sampling method, postpartum women were divided into two groups: 45 postpartum women (comparison group) received traditional suture treatment (chlorhexidine, potassium permanganate solution), 53 mothers received Depantol suppositories twice a day and vaginal treatment with Hexicon solution. main group. The examined groups of postpartum women were homogeneous and comparable in terms of socio-biological characteristics, characteristics of the pregnancy and childbirth process, and the severity of soft tissue damage to the birth canal.

The study was conducted in a randomized controlled open-label study design. Approval from the regional ethics committee was obtained before the study began.

Efficacy was assessed based on daily clinical examination, generally accepted laboratory parameters over time (leukocyte count, qualitative and quantitative composition of vaginal microflora during microscopic examination).

In addition, the expression of TLR (toll-like receptor) receptors has been detected in blood and wound secretions. TLR4 receptors are innate immune factors that express membrane-bound molecules responsible for triggering the intracellular inflammatory cascade. Ligands for TLR4 are lipopolysaccharide complexes of gram-negative bacteria and, to a lesser extent, heat shock proteins, fibrinogen, heparin sulfate, hyaluronic acid fragments, nickel, and some other substances. TLR4 is present on monocyte-macrophage, dendritic, mast cells, and intestinal epithelium. Gram-negative infection leads to a rapid increase in its expression on the cell surface and triggers the production of tumor necrosis factor, inflammatory cytokines, and activation of innate immunity. The ultimate goal of the anti-inflammatory response is to eliminate the pathogen. Insufficient expression of the receptor is associated with chronic/prolonged infection and inflammation [12]. TLR4 was detected by two-color flow cytometry (Beckman Coulter FC 500) using monoclonal antibodies from Immunotech.

RESEARCH RESULTS

Most of the women in labor who underwent the examination had an optimal age for childbirth (mean age 26.3±1.4 years in the main group and 24.8±1.6 years in the comparison group). Among the examined patients of both groups primiparas predominated, accounting for 62% in the main group and 67% in the comparison group.

More than half of postpartum women had extragenital diseases (65% in the main group and 71% in the comparison group), among which kidney diseases, cardiovascular diseases, endocrine and allergic diseases prevailed; The frequency of genital diseases in postpartum women in the main and comparison groups was 41 and 47% in both groups, respectively, with inflammatory processes prevailing;

61% of patients in the main group and 63% in the comparison group experienced some complications during pregnancy. A high incidence of colpitis and ARVI during pregnancy was found in patients in both groups.

The duration of labor in the examined patients in different groups did not differ significantly. Untimely rupture of amniotic fluid was diagnosed in 68% of mothers in the main group and in 55% in the comparison group. The duration of the water-free interval in the main group was 6 hours 10 minutes, in the comparison group - 6 hours 30 minutes. Anomalies of labor complicated the labor process in every third examined patient without significant differences in the compared groups. According to the selection criteria, all examined postpartum women had injuries to the soft tissues of the birth canal, the severity of which was comparable in both groups.

Thus, the examined groups of postpartum women were homogeneous and comparable in terms of socio-biological characteristics, characteristics of the pregnancy and childbirth process, severity of soft tissue damage of the birth canal, and the level of infectious risk in the postpartum period.

All examined patients, in accordance with the study plan, treated vaginal sutures with hexicon solution for 5 days, starting from the first day of the postpartum period, as well as with depantol suppositories. Patient complaints and clinical examination data within 1-2 days after delivery did not differ in postpartum women of both groups, this indicator was not affected by the nature of the suture treatment;

All postpartum women in the main group had normal body temperature during their stay in the maternity hospital, and 1 postpartum woman in the comparison group had a body temperature increase of 37.2 ° C. On the 4th-5th day of the postpartum period, the healing nature of the suture was assessed and, in the case of cervical rupture, a speculum examination was performed. In all postpartum women in the main group, healing occurred by primary intention without infectious complications. In 3 mothers in the comparison group, infected sutures were diagnosed (1 - perineum, 2 patients - vaginal walls, one of them with hyperthermia).

Data obtained from special research methods (see table) confirm the results of clinical observations.

There were significant differences in all positions where TLR4 expression was detected. Local differences concerned both the number of leukocytes and the relative number of cells that had TLR4. Thus, the inclusion of the drug "Depantol" in the therapeutic complex significantly reduced the number of leukocytes in the wound secretion, while reducing the time for epithelialization of the wound. This is probably due to the more effective antibacterial effect of Depantol, which leads to a lower need for leukocytes in the lesion to eliminate the inflammatory process. At the same time, the relative increase in the number of cells carrying TLR4 probably reflects the lower participation of cells that do not express this receptor. More favorable course of the postoperative period was characteristic of patients in the main group. This was accompanied by less pronounced postoperative leukocytosis, as well as a decrease in the number of cells containing TLR4. The presented differences indicate a lower demand for TLR4-mediated mechanisms.

Thus, the results of the study show that the inclusion of Depantol in the complex of preventive measures in the treatment of women who gave birth with soft tissue injuries of the birth canal helps to reduce infectious complications and ensures a more comfortable postpartum period. The expression of TLR4 shows that the inclusion of Depantol in the therapeutic complex significantly reduced the number of leukocytes in the wound secretion, while reducing the time for wound epithelialization.

This method of treating stitches is convenient for patients and medical staff and can be used independently by the patient at home.

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