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Prevention of Induced Abortion-Review

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SUMMARY
A review of the current literature on Anti-D and antibiotic prophylaxis, as well as prophylaxis of venous thromboembolism in induced abortion is made. An in - depth analysis of the guidelines of leading international and national organizations for prophylaxis of induced abortion-surgical and medicated during the I-st and II-nd trimester in terms of early and late complications has been carried out. Shared with the author's many years of practical experience in order to assess the risks and benefits of the application of modern means of prophylaxis in artificial abortion and thus to improve the individual obstetric-gynecological practice.

Material and methods:historical method-study of electronic resources database in the last 10 years.

Results: In SA, the use of prophylactic antibiotics is recommended because it reduces the risk of infection by half. The inability to provide antibiotics should not limit access to SA as the overall risk of infection is very low (1.7%). It is recommended to use a 3-day course of doxycycline. After MA, the risk of intrauterine infection is very low (0.92%) and routine use of prophylactic antibiotics is not necessary. In MA, women at high risk for Genitourinary infections, Sexually transmitted infections (HIV, gonorrhea, syphilis, chlamydia, mycoplasmas and anaerobes) are indicated for antibiotic prophylaxis.History of pulmonary thromboembolism, thrombophilia and obesity are proven to be major risk factors for the development of pulmonary thromboembolism during pregnancy. For women at high risk - thromboprophylaxis is carried out before abortion with unfractionated heparin (UFH). For women with a lower risk, thromboprophylaxis is performed with low-molecular heparin - (LMWH) 7 days after the abortion.

Conclusion: Anti-D prophylaxis should be carried out on non-sensitized RhD-negative women who have induced abortion (SA or MA) after 10 years.Prevention is allowed before 10 years.Ha's. Women who do MA up to 10 years old Anti-D prophylaxis is not offered! To RhD -negative women, for whom it has been found that they are already sensitized-anti-Apostille prophylaxis also does not apply!

Keywords:induced abortion, prophylactic, pregnancy.

I. RESULTS

Anti-D prophylaxis

Rh-isoimmunization is a type of hemolytic disease of the fetus and newborn (HDFN). This is the development of antibodies against the Rh-antigens on the surface of the red blood cells of another individual (t.well. [15]. The main reason for the application of anti-D-prophylaxis is the Prevention of sensitization to Rh (D) - an antigen that can lead to hemolytic disease of the fetus and newborn with each subsequent pregnancy. Red blood cells express an undeclared antigen, starting on the 52nd day of the last menstrual cycle, LMP. At the 63rd day of the LMP after SA, there was sufficient maternal-foetal haemorrhage to induce alloimmunization [3]. Passive immunization of all Rh -negative women with Rh -immunoglobulin within 72 hours of abortion was recommended in the United States in 1961. [17].

The current practice is to give anti-aposematic to all women who have an abortion and are Rhesus-D-Negative. At this stage, there is no evidence of the need for mandatory anti-menopausal prophylaxis for women who have an abortion up to and including. 13+6 gw. For women up to and including. 10 + 0 gw. the amount of fetal blood cells transmitted to the pregnant woman is unlikely to cause sensitisation. The negative impact of abortion delays, travel problems and service costs will outweigh any benefit of providing anti-menopausal prophylaxis for early abortion. There is no evidence to distinguish surgical (SA) from medical (MA) abortion on this topic. It is considered that there is theoretically a greater risk of having a greater FETO-maternal haemorrhage, respectively. there is a risk of transmission of more fetal blood cells during SA.

Therefore, anti-D prophylaxis is more likely to be beneficial in later pregnancies and in young women who are likely to wish for a new pregnancy in the future [5,18]. It is rational to apply anti-D prophylaxis for women who are

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Rhesus-D Negative and have an abortion (SA, MA) after 10+0 gw. as well as Ha po up to 10+0 gw. For women who do MA to incl. 10 + 0 gw. - anti-D Evaluative prophylaxis not offered [11]! To D - negative women who, when screened for antibodies, were found to have already been sensitized-anti-D prophylaxis is also not applied [2]! However, the unintentional application of prophylactic anti-D IgGto an already sensitized woman would not in itself cause her any harm.

Induced abortion (SA, Ma) has been suggested to be associated with a higher risk of Rh(D)sensitisation than spontaneous abortion [6]. Anti-D Apostille prophylaxis should be carried out on non-sensitized D -negative women with an injection of Rh-immunoglobulin (IgG anti-D) into the deltoid muscle or anterolateral thigh within 72 hours after abortion. The gluteal muscles should be avoided for injection because often the needle only reaches the subcutaneous tissues and absorption may be delayed. The dose of Rh -immunoglobulin can be reduced from 300 µg (a dose administered after childbirth in term) to 50-75 µga postille in pregnancies lasting less than 12 weeks [17]) and 250 µg after 12 gw. [14].

RCOG recommends IgG Anti-D immunoglobulin at a dose of 250 µg up to 20 gw. and 500µg Icelanders after that. A dose of 500µg provides protection for fetal hemorrhage up to 4 ml. Abortions performed after 20 gw, the size of the foetal haemorrhage should be evaluated and if the test shows that it is above 4 ambiguities, an additional 125 µg /ml anti-D [2] should be administered. To Rh-negative women who do MA it is recommended that anti-D prophylaxis be carried out during the administration of prostaglandin - Misoprostol [17]. For women who useMisoprostolat home, it is possible to apply Rh-immunoglobulin with the intake of Mifepristone. In the event of patients refusal of Rh-immunoglobulin, an informed voluntary refusal of this medical intervention should be issued.

Conclusions: anti-D prophylaxis should be carried out on non-sensitized RhD-negative women who have induced abortion (SA or MA) after 10+0 gw. Prevention is allowed before 10+0 gw. at Ha's. For women who do MA to incl. 10 + 0 gw anti-D prophylaxis is not offered! To RhD-negative women, who, when screened for antibodies, were found to have already been sensitized-anti-D prophylaxis is also not applied!

Antibiotic prophylaxis

The Royal College of Obstetricians and Gynaecologists in London (RCOG) offers antibiotic prophylaxis, effective against Chlamydia trachomatis and anaerobes for both SA (evidence grade: A) and MA (evidence grade: C) [2]. According to the Alabamian protocol, all women should be screened for Chlamydia trachomatisand have a risk assessment for other Sexually transmitted diseases (HIV, gonorrhea, syphilis, chlamydia, mycoplasmas, and anaerobes). Studies have shown that the presence of aposematic, aposematic and bacterial vaginosis in the lower genital tract at the time of abortion is associated with an increased risk of infection [2].

Prevention and control of infections in SA

In a Finnish study of 42,619 women exposed to both MA and SA, [2] the rate of reported infection in the 6 weeks after the procedure, based on outpatient and hospital visits, was 1.7%. The presence of infection in the lower reproductive tract during abortion is a risk factor for pelvic inflammatory disease, TVB (RTI) after SA [17]. Routine antibiotic use during ha reduced the risk of infection by half (41.0% [10] compared to placebo [1], [17]. Many antibiotic prophylaxis regimens have been studied, but the ideal antibiotic, dose, and timing of administration have not yet been established [4] in the case of D&E, some authors suggest starting prophylaxis at the time of cervix preparation, while others suggest starting prophylaxis immediately before the surgical procedure. As criteria for the effectiveness of any prophylactic regimen, the presence of: severe infection within 1 month after abortion; inflammatory disease of the pelvic organs within 1 month after abortion; gastrointestinal side effects; patient satisfaction.

Some authors suggest starting prophylaxis while preparing the cervix, while others suggest starting prophylaxis immediately before the surgical procedure. As criteria for the effectiveness of any prophylactic regimen, the presence of: severe infection within 1 month after abortion; inflammatory disease of the pelvic organs within 1 month after abortion; gastrointestinal side effects; patient satisfaction.

There are two types of antibiotic prophylaxis.:

One: with metronidazole and doxycycline versus doxycycline [10].

Second: with doxycycline 3 days versus doxycycline 7 days [10].

Severe infection within 1 month of abortion: no clinically important difference was found between the drugs from the first practice, nor between the duration of doxycycline from the second practice [10].

Inflammatory disease of the pelvic organs within 1 month after abortion:

No clinically important difference was found in the percentage of women with increased vaginal and vaginal secretion amines who had a combined score for complications after abortion. There was also no difference in Gram-positive staining for bacterial vaginosis in both practices studied [10]. When taking into account physical findings of pelvic inflammation such as vaginal discharge or odor > 7 days after abortion, purulent cervical discharge on Examination > 7 days after abortion, soreness of the uterus or adnexes on pelvic examination, abnormally heavy bleeding > 3 days or continuing bleeding > 7 days after abortion; palpated adnexal masses on pelvic examination, pain, slight fatigue or malaise 7 days after abortion, and a measured temperature above 38,0 C no clinically relevant difference was found in the two antibiotic practices [10].

In the diagnosis of post-abortion infection after vacuum aspiration, the infection rate varies from 0.01 - 2.44%, and in the case of D&E -0.8-1.6% [7]. A Cochrane meta-analysis of 19 randomized controlled clinical trials showed that administration of prophylactic antibiotics during an VAinduced abortion significantly reduced the risk of infection [7]. The evidence in support of the use of prophylactic antibiotics before repeaters is more limited, but due to the proven effectiveness of the D&E, all professional national and international organizations recommend the mandatory use of prophylactic antibiotics before repeaters. A systematic review [17,18] concludes that the use of antibiotics is effective in preventing pelvic inflammatory disease after SA. It is important to note that in case of inability to provide antibiotics should not restrict access to abortion [16], since the overall risk of infection in abortion is very low [2,7].

Gastrointestinal side effects

There was no clinically important difference in the incidence of vomiting or diarrhoea between the two antibiotic practices. Metronidazole can be worse tolerated and have significant side effects, so the use of doxycycline is recommended. On the other hand, the approximately equal effectiveness of the 3-day and 7 - day course of doxycycline determines the use of a 3-day course instead of a 7-day course. Alternative groups of antibiotics with proven effectiveness are nitromidazoles, tetracyclines and beta-lactams [10,18].

Patient satisfaction-no studies have been recorded on this criterion.

For SA, the most commonly used regimens in clinical practice or those recommended by professional organizations [1], [12] are presented below. These regimes are based on clinical evidence and expert opinion. These include dosing doxycycline 200mg p.os, azithromycin 500mg,p.os, metronidazole 500 mg p.os, within 1 or 2 hours prior to the procedure. Doxycycline, azithromycin and metronidazole rarely cause allergic reactions and are well absorbed when taken orally. The following antibiotic prophylaxis regimens are recommended [2]:

For women who have not been tested for chlamydia infection:

* azithromycin 1gperoral on the day of the abortion plus metronidazole 1 unspecified rectal or 800 mg peroral before or during the abortion or
* doxycycline 100mg orally twice daily for 7 days starting from the day of the abortion, plus metronidazole 1g per rectal or 800mgper orally before or during the abortion

For women who test negative for chlamydia infection:

* metronidazole 1g perrectal or 800mgperoral before or during abortion.

Other AG professional organizations do not recommend routine use of prophylactic antibiotics except in cases of non-infants and women with vaginal infection before abortion [9]. The recommended antibiotics are [9]:

* for non-breastfed women-doxycycline 100 mg, twice daily for seven days and azithromycin 500mg once daily for three days;
* for lactating women - ampicillin 500mg for five days.

Infection prevention and control in MA:

After MA, the risk of intrauterine infection is very low and routine use of prophylactic antibiotics is not necessary [7]. In a systematic review of 46,421 women, the incidence of infection after MA during the I-st and II-nd trimester was low - 0.92% [2]. Among the 227,823 women who underwent MA in a study [2], 92 cases of "serious" infections (defined as fever and pelvic pain treated with intravenous antibiotics, or sepsis, or death caused by infection) were reported. The incidence of serious infection is 0.06 / 1000. Women at high risk for Genitourinary infections, Sexually transmitted diseases (HIV, gonorrhea, syphilis, chlamydia, mycoplasmas and anaerobes) are indicated for antibiotic prophylaxis in MA [10].

Antibiotic prophylaxis with doxycycline versus no antibiotic prophylaxis: the comparative review found that there were lower rates of severe infections with antibiotic prophylaxis compared to no antibiotic prophylaxis. When using doxycycline, gastrointestinal side effects are more common.

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With respect to pelvic inflammatory disease within 1 month of abortion and patient satisfaction - no significant differences were found [10].

II. CONCLUSIONS:

In SA, the use of prophylactic antibiotics is recommended because it reduces the risk of infection by half. Failure to provide antibiotics should not limit access to SA as the overall risk of infection in SA is very low (1.7%). It is recommended to use a 3-day course of doxycycline. Alternative groups of antibiotics with proven effectiveness are nitromidazoles, tetracyclines and beta-lactams [10]. After MA, the risk of intrauterine infection is very low (0.92%) and routine use of prophylactic antibiotics is not necessary. Women at high risk for Sexually transmitted infections (HIV, gonorrhea, syphilis, chlamydia, mycoplasmas and anaerobes) are indicated for AB prophylaxis in MA

Prevention of venous thromboembolism

History of PTE: the strongest personal risk factor for PTE during pregnancy is a history of PTE. 15-25% of PTE in pregnancy are recurrent events. [8]. A history of unprovoked PTE (without an identifiable associated risk factor) carries a greater risk than a history of provoked PTE (with an identifiable associated risk factor).

Thrombophilia and risk of PTE: thrombophilia is present in 20.0 - 50.0% of women who have experienced PTE during pregnancy and after childbirth. [8]. For women with thrombophilia who have no personal history of PTE but have a family history of PTE, the risk of PTE increases two to fourfold, depending on the number and age of affected relatives [13].

Obesity and PTE risk: an increase in body mass index (BMI) is recognized as a risk factor for developing PTE during pregnancy [13].

Thromboprophylaxis: hydration in combination with compression agents (socks, intermittent pneumatic compression, perplex) reduce the incidence of deep vein thrombosis, DVT in high-risk patients [13]. For women with a high risk of pharmacalogical agents, it is recommended - before abortion unfractionated heparin, vancomycin (UFH) [97]. It is not recommended for routine administration as a first-line drug for thromboprophylaxis during pregnancy [13]. For patients at lower risk, low-molecular - weight heparin(LMWH) is recommended-aposematic-aposematic [13] 7 days after abortion [97].

Contraindications for thromboprophylaxis are known hypersensitivity [13], history of or current heparin-induced thrombocytopenia, Heparin-induced thrombocytopenia (HIT) [13], creatinine clearance below 15 mL/ min.

III. CONCLUSIONS

History of PTE, thrombophilia and obesity are proven to be major risk factors for the development of PTE during pregnancy. For women at high risk, prophylaxis is carried out before abortion with unfractionated heparin (UFH). For women at lower risk, prophylaxis of DVT with low molecular weight heparin(LMWH) is recommended-7 days after abortion.

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