



ESTIMATION OF USE EFFICIENCY OF ESSENTIAL OIL OF ANISE IN TREATMENT OF GENITAL INFECTIONS IN PREGNANT WOMEN

¹Sayfiyeva M., ²Rabbimova G.T., ¹Muhamadiev N.Q.
¹Samarkand State University, Uzbekistan
²Samarkand Medical University, Uzbekistan

Abstract

In the work the use effectiveness of anise essential oil in the treatment of genital infections in pregnant women has been evaluated. It has been established that the treatment of genital infections in pregnant women, using essential oils of ordinary anise, increases the effectiveness of treatment, improves the microbiocenosis state of vagina, normalizes the indices of endogenous intoxication and the activity of Kallikrein kinin system (KKS) enzymes, as a result reducing the incidence of premature births by 2.6 times, prenatal rupture of membranes (PRM) 8 times, the frequency of inflammatory complications in the postpartum period is 2.9 times, characterized by a decrease in the frequency of relapses of the disease by 4.5 times due to the normalization of the vaginal microbiocenosis, reduction of drug load on the macroorganism. It was revealed that, for the treatment of threatened abortion of infectious genesis, leads to conduct an early complex therapy: taking a phyto-collection orally with correction of dysbiotic disorders (local sanitation of a genital infection focus with the inclusion of anise essential oil in the form of an extract on vegetable oil).

Key words: essential oil, anise, cadanopsis, efficiency, treatment of genital infection, pregnant women.

Introduction

It is known that all over the world more than 50% of visits to a gynecologist are associated with infectious pathology of the vagina and/or cervix, which is observed in 25 to 45% of cases in pregnant women according to WHO. Violations in the bacterial community of the vagina lead to the development of clinical manifestations of infection in the form of bacterial vaginosis, candidal vaginitis and aerobic vaginitis, which can cause a high threat frequency and/or premature termination of pregnancy, etc. [1-4]. In this regard, a special place is occupied by methods of identifying markers of microorganisms in the diagnosis and treatment of genital infections in pregnant women [5-10]. It is known that essential oils have



anti-inflammatory, wound-healing properties, do not cause allergization of the body, and the resistance of microorganisms, reduce the drug load on the body.

Purpose of the research was to study the use effectiveness of essential oils of anise ordinary in the treatment of genital infections in pregnant women.

Material and methods of the research. We observed 87 pregnant women with the threat of termination of pregnancy of infectious genesis in terms of gestation from 10 to 32 weeks.

Depending on the nature of the nosology and the complications of pregnancy (with and without the threat of termination of pregnancy) and carried out treatment of women with genital infections complicated by the threat of termination of pregnancy (high risk) were divided into two clinical groups: traditional therapy (TT) - the first (52 women) were conducted therapeutic measures according to the standard two-stage scheme, depending on the nosological group, including antibacterial drugs: with bacterial vaginosis (BV), metronidazole according to the scheme, with vulvovaginal candidiasis (VVC), clotrimazole tablets according to the scheme and probiotics, the second complex therapy (CT) (63 women) - additionally took herbal medicine (cadanopsis: anise in 9: 1 ratio) in the form of tea, locally - essential oil of common anise (sunflower oil 100 ml + 0.5 ml essential oil) in the form of tampons for 5 days. At the final stage, pregnant women of both clinical groups used probiotics - suppositories, containing in 1 dose 10 million live acidophilic lactobacilli ("Acylact"), intravaginally 1 candle 2 times a day for 7 days. The indicated sequence of application of medicinal preparations at the stages of therapy is due to the fact that after antibacterial treatment occurs release of lipopolysaccharides (LPS) bacterial cells, requiring their timely elimination from the vaginal biotope to weaken the local and systemic effects of LPS on the macroorganism

Clinical observation in the dynamics of treatment showed that after combined 3-stage therapy in the main group of pregnant women with high risk disappears hyperemia of the mucous membrane of the vagina and cervix, the discharge becomes mucous and decreases in volume, the itching in the external genital organs disappears within 2-3 days, compared with the 2nd group within 7-10 days, the mucous becomes more shine.



In the dynamics of treatment, the effect on the coccal flora of the vagina was noted. So, in the 1st group, on the background of treatment, their content decreased upto 25.3% compared to the start of treatment - 88.4%, in the 2nd group - upto 58.2% compared to the start of treatment - 82.4%. The effect was also observed in relation to gram-negative rods and fungus. In the 1st group, their number after treatment decreased 3.5 times, in the 2nd group - just 1.1 times. Gram-positive bacilli reflecting environmental well-being before treatment were sown in 34.6% (18) of the non-threatening groups and in 32.1% (36) of the threatened women. After treatment in the main group, who received CT, their number increased to 65%, who received TT almost did not change to 34.7% compared with before treatment.

The results of determining the microflora of the vagina by bacteriological and GLC methods are presented in Table 1 and 2, the data are consistent with each other, and the number of microorganism markers is more accurately expressed in the case of GLC determination.

Table 1, The composition of vagina microflora in pregnant women with genital infection in the dynamics of treatment % (n)

Microorganisms	Comparison (n=49)		Main (n=115)		
	Before	After	Before	After	
				TT	KT
No increase detected	5,8 (3)	46,2 (24)	3,9 (4)	32 (17)	74,6 (47)**
Microorganisms increase	94,2 (46)	53,8 (25)	96,4(108)	67,3 (35)	25,4 (16)
Streptococcusfaecalis	19,2 (10)	9,6 (5)	26,8 (30)	19,2 (10)	9,5 (6)
Staph. epidermidis	28,8 (15)	13,5 (7)	33,9 (38)	31, (18)	11,1 (7)*
Staphylococcus aureus	5,8 (3)	1 (1,9)	10,7 (12)	5,7 (3)	-
E.coli	51,9 (27)	9 (12)	60,7 (68)	38,5 (20)	9,5 (6)**
Streptococcusagalactiae B	23,1 (12)	1,9 (1)	33,0 (37)	-	-
Klebsiella	3,8 (2)	-	3,6 (4)	1 (2,0)	-
Proteusspp.	9,6 (4)	1,9 (1)	13,4 (15)	9,6 (5)	6,4 (4)
Fungus of Candida type	32,7 (17)	11,5 (6)	34,8 (39)	18,4 (9)	6,4 (4)*
Fungus + bacilli	34,6 (18)	42,3 (22)	32,1 (36)	34,7 (17)	65 (41)*

Note: * - Reliability - * p <0.05; ** - p <0.01.



Table 2

The content of markers of microorganisms from the contents of the vagina and cervix by GLC after treatment

N	Возбудитель	Marker	Before treatment	After treatment	
				KT	TT
1	Chlamydia trachomatis	Hydroxyeicosanoic acid (3h20)	$2,58 \cdot 10^7$	$7,92 \cdot 10^3$	$8,12 \cdot 10^5$
2	E. coli	3-hydroxy myristic acid	$2,44 \cdot 10^7$	$6,58 \cdot 10^2$	$4,76 \cdot 10^4$
3	Staphylococcus	Anthisononadecanoic acid (a19)	$2,10 \cdot 10^8$	$7,36 \cdot 10^3$	$2,64 \cdot 10^5$
4	Streptococcus	Decanoic acid (C _{10:0})	$7,07 \cdot 10^9$	$5,64 \cdot 10^3$	$3,56 \cdot 10^5$
5	Fungus Candida type	Heptadecenoic acid (C _{17:1})	$7,40 \cdot 10^6$	$1,68 \cdot 10^3$	$2,34 \cdot 10^4$
6	Lactobacillus	1-methyleneoktadecanoic acid (C _{19cyc})	$5,39 \cdot 10^3$	$6,48 \cdot 10^7$	$3,92 \cdot 10^3$

The data obtained are consistent with each other, as can be seen from table 2, the number of microorganism markers is more accurately expressed in the case of determination by GLC.

In the main and comparative groups after the therapy course, all pregnant women were observed on outpatient conditions with repeated taking vaginal smears. After the therapy course of genital infections in pregnant women of the comparative group, clinical recovery occurred in 45 (86.5%) patients. Elements of the fungus were found in 3 (5.8%), in 3 (5.8%) patients the inflammatory type of vaginal smear was preserved, and in 11 (21.2%) pregnant women the native preparation corresponded to the intermediate type of smear, key cells were found in 2 (3.9%) cases.

The treatment for VVC was 46 (88.5%), for BV respectively, 47 (90.4%), for HB 45 (86.5%), for BV + VVC association — 50 (96.2%), for mixed infections - 41 (78.8%).

After the therapy course of genital infections in pregnant women of the main group, clinical recovery in subgroup A occurred in 61 (96.8%) patients, in subgroup B in 38 (77.6%); in subgroup A, elements of the fungus were found in 2 (3.2%) and in 3 (4.8%) patients the inflammatory type of vaginal smear was preserved, and in 11 (17.5%) pregnant women the



native preparation corresponded to the intermediate type of smear. In subgroup B, key cells were found in 1 (2.04%) cases, fungus elements - in 5 (10.2%), inflammatory smear type was in 11 (22.4%) women, intermediate smear type - in 15 (30.6%). The treatment for VVC in subgroup A was 91.2%, in subgroup B was 80%; from BV, respectively, 94.4% and 85%, from HB -97.1 and 80%, from the association of BV + VVC - 100 and 66.7%, from mixed infections - 100 and 70%. The normocenosis in the vaginal biotope was preserved up to birth in 56 (88.9%) pregnant in subgroups A and in 28 (57.1%) subgroups B. Intermediate smear type before birth was found in 1 (1.6%) women and in 9 (18.4%) respectively in groups.

Analysis of the results of therapy showed that the effectiveness of CT increases the efficiency of the conventional; the developed method of rehabilitation of genital infections allows to quickly and effectively eliminate pathogenic pathogens, restore the normal microflora of the genital tract and achieve a long-lasting positive effect compared to the group of pregnant women who received TT (Fig. 1).

The normocenosis in the vaginal biotope was preserved until birth in 37 (71.2%) pregnant subgroups, an intermediate type of smear before birth was found in 5 (9.6%) women.

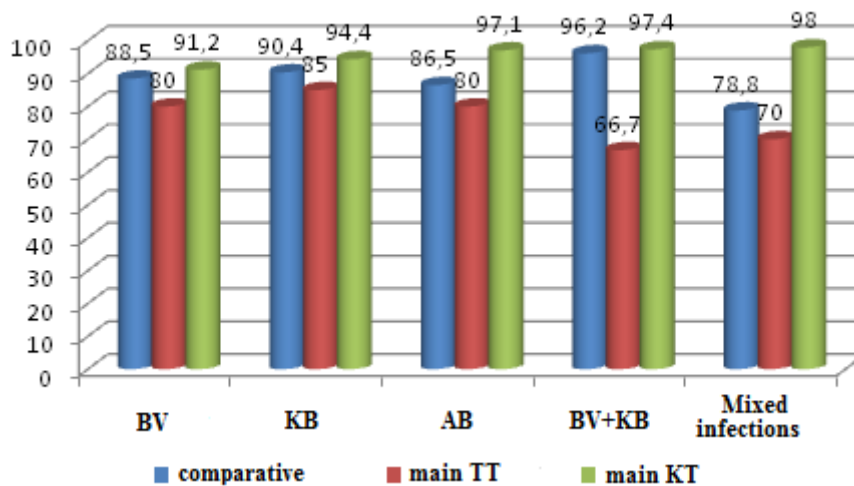


Fig. 1. Treatment from genital infections in the examined (%)

It can be seen from the figure that the highest treatment efficiency of pregnant women with genital infections is observed in the group of pregnant women of the main group, who received CT, taking into account the indicators of the antioxidant system, which leads to the



decrease in the frequency of infections, to a decrease in disease recurrence by 2.1 times due to the normalization of the microbiological characteristics of vaginal microbiocenosis before giving birth.

Conclusions

1. It has been established that the treatment of genital infections in pregnant women, using the essential oils of anise ordinary locally in the form of tampons increases the effectiveness of treatment, improves the microbiocenosis of the vagina, normalizes the EI indicators and the activity of KKS enzymes, as a result reducing the incidence of premature birth by 2.6 times, PRM 2.8 times, reduce the medicinal load on the body.

2. It was revealed that for the treatment of threat for termination of pregnancy of infectious genesis leads to conduct an early complex therapy: taking a phyto-collection orally with correction of dysbiotic disorders (local reorganization of the source of genital infection with the inclusion of essential oil of anise ordinary in the form of an extract on vegetable oil).

References

1. Atladóttir H. Ó. et al. Maternal infection requiring hospitalization during pregnancy and autism spectrum disorders //Journal of autism and developmental disorders. – 2010. – T. 40. – №. 12. – C. 1423-1430.
2. Kitsak V. Ya. Viral infections of pregnant women: pathology of the fetus and newborns // Novosibirsk: Koltsovo. – 2004. – 84 p. - 2004. (in Russian)
3. Borovkova L.V., Kolobova S.O. A modern view on the problem of miscarriage of an infectious genesis of pregnancy // Remedium Volga Region. - 2016. - №. 3 (143).
4. Bashmakova M. A., Savicheva A. M. Genital mycoplasmas and mycoplasma infections // Difficult Patient. - 2006. - V. 4. - №. 2. (in Russian)
5. Aripovskiy A.V., Kolesnik P.O., Widzhel M.I., Titov V.N. Method of preparing samples for gas chromatographic determination of fatty acids without preliminary extraction of lipids // Clinical Laboratory Diagnostics. - 2012. - №. 1. - p. 3-6. (in Russian)
6. Mukhamadiev N. K., Ibatova Sh.M. Gas chromatographic study of fatty acids in the blood serum of children with rickets // Proceedings of the 2nd Western Ukrainian Adsorption and Chromatography Symposium. -Lviv. - 2000.- p. 211-214. (in Russian)



7. Osipov G.A. Chromato-mass-spectrometric analysis of microorganisms and their communities in clinical samples with infections and dysbiosis / Chemical analysis in medical diagnostics. - M .: Nauka, 2010. - p. 293–368. (in Russian)
8. Osipov G.A., Rodionov G.G. Application of the method of mass spectrometry of microbial markers in clinical practice // Laboratory diagnostics - 2013. - № 2. - P. 68-73. (in Russian)
9. Emma Tait, John D. Perry, Stephen P. Stanforth, John R. Dean Use of volatile compounds as a diagnostic tool for the detection of pathogenic bacteria // Trends in Analytical Chemistry 53 (2014) 117–125
10. Tikhomirov A.L., Sarsania S. I. Complex treatment of mixed genital infections // Gynecology. - 2004. - V. 6. - №. 6. - p. 289-292. (in Russian)