

Content of Antispermatic Antibodies (ASA) in Blood before and after Treatment of Infectious-Inflammatory Diseases of Urogenital Tract in Infertile Males

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Abstract

It has been shown by investigations that the infectious-inflammatory processes of urogenital tract (STI), chronic urethroprostatitis, epididymitis, etc., are the most common factors of antispermatic antibodies (ASA) formation in blood of infertile males. Application of novel immunomodulating remedies (Neovir, Glutoxim, Cycloferon, etc.) and physiotherapeutic means the (the laser apparatus "Yarilo-Synchro") in complex therapy of autoimmune infertility developed as a result of excretory-toxic and excretory-obstructive forms of infertility favors the liquidation of etiologic agent of the inflammatory process and promotes normalization of autoimmune processes. As a result of an adequate anti-inflammatory treatment of infertile males with infectious-inflammatory diseases ASA content in blood comes back to the norm. After treatment a positive effect has been achieved in 62.7% of patients treated on STI, in 67% of those treated on chronic prostatitis, and in 57.9% of patients with epididymitis.

Keywords: *ASA, STI, prostatitis, epididymitis, infertility*

Introduction

Inflammatory diseases of male urogenital organs became widely spread during the recent years. Sexually transmitted infections (STI), chronic urethroprostatitis and epididymitis occupy a special position among them. It is established by investigations [1,3,7] that ureaplasmas, chlamydias and other STI may cause male infertility via direct action on spermatozooids as a result of close adhesion of these microorganisms to male gametes. The latter prevents the ovule from fertilization. As a result of prolonged course of these pathologies not only excretory-toxic and excretory-obstructive forms of infertility develop [2,4,7], but also the breaking of permeability of hematotesticular barrier (HTB), triggering of immune mechanisms of defense both on local and systemic levels and subsequent progress of autoimmune processes take place resulting autoimmune infertility [5,6].

According to the data of some authors [2,4] therapy of autoimmune infertility is complicated and often ineffective. Some cases of successful treatment of patients with high ASA level using short-term courses of steroid hormones are described. There are some references on the efficacy of contraceptive therapy, but there is the lack of information in literature on the technique and results of treatment of autoimmune infertility developed against the background of excretory and excretory-obstructive forms of infertility.

Material and Methods

A total of 267 infertile males (age 17-35, being married for 1.5-8 years) with chronic infectious-inflammatory processes of urogenital organs and high ASA level in blood were under observation.

Inflammatory pathologies of urogenital tract were diagnosed using the bacteriologic, bacterioscopic, immunofluorescent and other methods of investigation.

Both the native prostatic secret and the smear stained according to Gram were subjected to the microscopy in order to determine the amount of amyloids, lipoids, leukocytes and epithelial tissues and composition of bacterial flora (gonococcus, trichomonas, gardnereria and fungi).

Ultrasonography of prostatic gland, testes, epididymides and vesicles were performed using the apparatus of Medison SA 6000 C Capacace, equipped with 5-10 MHz and 3.5-5 MHz sensors of transabdominal approach.

ASA were detected by immunoenzymatic method, using the laboratory set of the firm "IBL-HAMBOURG", Germany.

Control laboratory investigations of ASA concentration were performed in 1 and 3 months after treating the inflammatory diseases.

Results

According to laboratory investigations the following pathologies of urogenital tract have been revealed in 169 (63.3%) patients with STI: Chlamydia trachomatis 62 (36.69%), Ureaplasma urealyticum 33 (19.53%), Trichomonas vaginalis 54 (31.95%), Neisseria gonorrhoeae 20 (11.83%) in mono or mixed form; in 79 (29.6%) of those patients chronic urethrostatis was diagnosed and in 19 (7.1%) epididymitis was established (unilateral in 11 males and bilateral in 8 ones). These pathologies of urogenital tract are responsible for increased content of ASA in blood. Concentration of ASA in infertile males with chlamydial infection, in those with parenchymal and follicular prostatitis and at bilateral epididymitis was found to be higher than at other pathologies of urogenital organs.

All the patients underwent complex anti-inflammatory treatment using the antibioticotherapy, vitaminotherapy and immunostimulation according to the generally accepted guidelines. Different immunomodulating remedies (Neovir, Glutoxim, Cycloferon, etc.) were used for correction of immune system.

Taking into consideration the etiologic agent of infectious-inflammatory process and according to the results of bacteriologic investigation, i. e. antibioticogram, various preparations were applied while treating STI and other pathologies of urogenital tract. The method of physiotherapy, implying the use of electrolaser apparatus "Yarilo-Synchro" was applied in complex with antibioticotherapy and immunostimulation at chronic urethrostatis treatment, while in case of epididymitis autohemotherapy was combined with antibioticotherapy.

In a majority of patients who suffered earlier with Ureaplasma urealyticum, Trichomonas vaginalis and Neisseria gonorrhoeae, after the course of STI treatment the concentration of ASA in blood reverted to the norm. But in case of patients with Chlamydia trachomatis concentration of ASA in blood became normal only in 25.8% of males. During a month after the course of treatment ASA level in blood reverted to the normal level in 106 (62.7%) out of 169 patients, but in three months it became normal in 106 (62.7%) of patients (*Tab.1*).

Treatment of chronic urethrostatis by physiotherapy using the apparatus "Yarilo-Synchro" was performed in 60 patients, 12 procedures, every day, on the background of antibioticotherapy and immunostimulation. The control group was comprised of 19 males, who were treated by the traditional method - antibioticotherapy combined with prostatic massage. In 3 months after treatment concentration of ASA in blood became normal in a majority of patients of the main group (75%), while in those of control group it was normalized only in 42.1% of patients. In general, out of 79 patients suffered earlier with chronic prostatitis ASA concentration reverted to the norm in 53 (67%) of group of patients with chronic prostatitis.

After treatment of epididymitis ASA content in blood was norm in 8 (72.7%) patients with unilateral epididymitis and only in 3 (37.5%) patients with bilateral epididymitis. In total after recovery from epididymitis ASA concentration was normalized in 11 (57.9%) males out of 19 ones (*Tab.2*).

At inflammatory pathologies of urogenital tract an increased level of leukocytes in ejaculate (leukocytospermia) was revealed in 115 (43%) infertile males out of 267 patients. The concentration of ASA in blood of these males was higher than in those with normal leukocytic indexes in the sperm. Concentration of leukocytes in sperm and ASA level in blood have been normalized in 102 (88.7%) of patients of this category.

Conclusions

1. Content of ASA in blood of infertile males with infectious-inflammatory processes becomes normal after fulfillment of proper treatment.

2. Application of the novel immunomodulating remedies (Neovir, Gluthoxim, Cycloferon, etc.) and the physiotherapeutic means (the apparatus "Yarilo-Synchro") with complex therapy of autoimmune infertility, favours the liquidation of etiologic agent of inflammatory process and promotes normalization of autoimmune processes.

PATENTS WITH STI AND ASA	PATIENTS WITH ASA AFTER TREATMENT OF STI	
	1 month	3 months
Chlamydia trachomatis n=62 (100%)	57 (92%)	46 (74.2%)
Ureaplasma urealyticum n=33 (100%)	11 (33.3%)	5 (15.15%)
Trichomonas vaginalis n=54 (100%)	22 (40.7%)	9 (16.6%)
Neisseria gonorrhoeae n=20 (100%)	7 (35%)	3 (15%)

Tab.1. *Content of ASA in blood before and after treatment of STI.*

PATIENTS WITH ASA AND PATHOLOGIES OF UROGENITAL TRACT		PATIENTS WITH ASA AFTER TREATMENT	
		1 month	3 month
Prostatitis (n=79)	main group n=60 (100%)	37 (61.6%)	15 (25%)
	control group n=19 (100%)	14 (73.7%)	11 (57.9%)
Epididymitis (n=19)	unilateral n=11 (100%)	7 (63.6%)	3 (27.3%)
	bilateral n=8 (100%)	6 (75%)	5 (62.5%)

Tab.2. *Content of ASA in blood before and after treatment of chronic prostatitis and epididymitis.*

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Содержание антиспермальных антител (АСА) в крови до и после лечения хронических инфекционно-воспалительных процессов уrogenитального тракта у бесплодных мужчин

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Р Е З Ю М Е

Исследования показали, что наиболее частыми факторами образования АСА в крови у инфертильных мужчин являются инфекционно-воспалительные процессы уrogenитального тракта – инфекции, передаваемые половым путём (ИППП), хр. уретропростатит, эпидидимит и др. Применение новых иммуномодулирующих (неовир, глютоксим, циклоферон и др.) и физиотерапевтических средств ("ярило-синхро") в комплексной терапии аутоиммунного бесплодия, сформированного вследствие экскреторно-токсической или экскреторно-обструктивной формы инфертильности, способствует ликвидации этиологического агента воспалительного процесса и нормализации аутоиммунных процессов. Содержание АСА в крови у инфертильных мужчин с инфекционно-воспалительными процессами нормализуется после проведения адекватного противовоспалительного лечения. Положительный эффект достигается после лечения ИППП - у 62,7% больных, после лечения хронического простатита - у 67%, а эпидидимита - у 57,9%.

Ключевые слова: АСА, ИППП, простатит, эпидидимит, бесплодие