



Mini Review

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Plasmapheresis in the Treatment of Male Infertility. Literature Review and Own Observation

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Abstract

Among the many causes of infertility in women, no less important is male infertility. It is most often associated with the presence of antisperm autoantibodies. Only their removal with the help of plasmapheresis can occur the long-awaited pregnancy, which shows the observation here.

Keywords: Male infertility, Antisperm Autoantibodies, Plasmapheresis

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The problem of infertility is one of the most urgent problems of obstetrics and urology. Its frequency is in 5-11% of marriages, and, in addition to "female" there is and male infertility sometimes. Among its reasons play an important role autoimmune disorders when, after often have long forgotten injuries, and even orhiepigidymitis varicocele arise autoantibodies against their own sperm that found in 8-21% of cases in men for suspected male infertility. They are capable of breaking the mobility of spermatozoa, and the ability of the latter to penetrate through the shell of the oocyte, without which it is impossible to even in vitro fertilization, the success of which in such cases does not exceed 40% [1].

In addition to autoantibodies, the functional state of sperm can be influenced by other toxic compounds of both exo- and endogenous origin, in particular, the generation of excessive amounts of cytotoxic oxidants [2-4]. In such cases, the sperm cells lose the genes for the oxidative phosphorylation [5]. In this case, the content of antisperm autoantibodies in the blood can increase to 3000-4000 units/ml (normally 75 units/ml) and up to 500-2000 units/ml in the ejaculate (at the same rate) [6]. The functional activity of spermatozoa is influenced by pollutants [7]. It was described the appearance of antisperm autoantibodies in men with detected virus (HSV, CMV) infections (31.1%) or with their biocenosis of bacteria (61.4 %) [8].

In systemic lupus erythematosus, the spermatogenesis with the appearance of antisperm autoantibodies is also disturbed and the treatment is carried out with the help of cyclophosphamide [9].

However, only with the help of plasmapheresis, it is possible to remove such antibodies and other toxic products, including oxidants, from the body and provide safe conditions for fertilization [10]. But, if "female infertility" insurance companies cover the costs of its treatment, for male, even in the US, this is not happening [11]. Nevertheless, such attempts are justified. So, it was showed an increase in the total number of sperms in the ejaculate by 46%, and the number of mobile cells by 30-123% after the course of plasmapheresis in men, while in 42% of cases the wives of these patients were pregnant [6].

We also observed a recovery in the number and activity of sperm after a course of plasmapheresis with the development of the pregnancy and birth of children.

The woman I. I, 34 years old, had 3 pregnancies, frozen at 7-9 weeks. Found urea plasma, cytomegalovirus and papillomavirus. Then there were 3 IVF attempts without fertilization of the oocyte. In this case, it was the fault of her husband already, 46 years old, who had antibodies against his own spermatozoa. In 2014, MAR-test could not be implemented due to the low concentration of motile sperm in the ejaculate (oligoasthenoteratozoospermia). 14.02.2015 - MAR-test-50%.

Given the presence of problems in both spouses 27.02-18.03.2015- each held 4 sessions of membrane plasmapheresis. 19.03. spermogram-MAR-test-0%. Obviously, these days, immediately after the course of plasmapheresis, the conception

had been occurred. To prevent problems associated with chronic infections, a woman was subsequently given single sessions of plasmapheresis at intervals of 1-2 months, which ensured the normal course of pregnancy with the birth of a healthy child. And a year later, without our help, pregnancy with the birth of a healthy child came again.

This observation shows the possibility of plasmapheresis in the provision of conception and subsequent pregnancy, even in the presence of aggravating circumstances on the part of both women and men.

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Conflict of Interest

No Conflict of Interest.

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