



## Effect of Women's Body Sensitisation On Its Reproductive Function

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**Abstract** The purpose of our study was to assess the influence of natural factors in the development of sensitisation of women suffering from infertility. Materials and methods: 40 women (leading group) suffering from infertility and 19 healthy women (control group) with an average age of  $25,8 \pm 1,4$  years took part in the study. Twenty allergenic molecules and epidermal extracts of animals and 16 allergenic molecules and food extracts of animal origin were compared [1,4]. As a result of the conducted researches it was established that women with infertility in the profile of sensitisation have much more molecules and extracts with which they react. Thus, the patients with infertility were involved in the allergic awareness of 10.55 particles, while in the control group, only 3.8 molecules were involved. Also, women with infertility have sensitisation to the allergenic Feld 2 molecule, which is a cat's album, and the presence of IgE to the epidermis of the cow, goat, guinea pig and hamster [4, 5].

**Keywords:** sensitization, organism, women

**Conclusions:** 8 (20.0%) infertile patients were sensitized to animal allergens: to cat albumin, to cow meat and cow's epidermis. According to the results of our study it is evident that 47.5% of women suffering from infertility have increased sensitisation to allergens of different origins, which is likely to lead to increased sensitisation to the sex cells of the husband, seminal fluid and makes it impossible to fertilise.

**Keywords:** primary infertility, sensitisation, natural allergens.

**Relevance.** The problem of infertility existed and will exist as long as humanity exists. In spite of the colossal success achieved today, every woman always has a simple human question: "Can I have a child? Indeed, first of all, all efforts of scientists, physicians are directed in search of the reasons connected with pathology of reproductive organs. However, these days, it becomes essential and evident that the development and functioning of any organism is completely interconnected with environment. The impact of adverse environmental factors has a significant impact on human health.

At present, many studies have been published that testify to the development of antibodies subclasses to spermatozoa, as well as in response to the development of inflammation in the tissues of reproductive organs [1,4]. It has been established that it is possible to produce autoantibodies against the husband's sperm, which leads to the disruption of the reproductive function of women [5]. Also, the development of allergies to the husband's seminal fluid and the change in the composition of antibodies in the cervical mucus of the uterus has been proved, which leads to the development of persistent infertility [2,3,6]. Taking an essential role in the event of infertility, we decided to evaluate the possible development of women's sensitisation to foodstuffs and allergens of domestic animals.

The purpose of our study was to assess the influence of natural factors in the development of sensitisation of women suffering from infertility.

**Materials and methods:** We examined 59 women of fertile age. Of these, the 1st group (leading group) consisted of patients suffering from infertility (40 people); the 2nd group (control) consisted of healthy women (19 people). The age of the women surveyed ranged from 22 to 36 years (average age  $28.5 \pm 1.4$  years), and all women surveyed lived in the same area (Bukhara, Uzbekistan).

The inclusion criteria were women with primary and secondary infertility (infectious genesis and mixed genesis). The exclusion criteria were patients with infertility of hormonal genesis, severe somatic pathology, presence of severe longterm allergic diseases. Blood serums were tested with the ALEX allergies (MADx, Austria) according to the manufacturer's instructions. Patients with IgE-specific levels of at least 0.1 kU/L were considered positive, and the analysis of IgE-sensitisation profiles to allergic molecules was performed using IBM SPSS 20 and Microsoft Excel at the International Center for Molecular Allergology at the Center of Advanced Technologies (Tashkent, Uzbekistan).

The results of the study and discussion: during the study of patients' history in the 1st group, frequent colds were observed in 16 (40.0%), later formation of menarche - in 8 (20.0%), dysmenorrhea - in 25 (62.5%). RDA occurred in 31 (77.5%), viral hepatitis B - in 4 (10.0%), chronic gastritis - in 15 (37.5%), chronic gastroenterocolitis - in 9 (22.5%), chronic pyelonephritis - in 19 (47.5%), chronic tonsillitis - in 13 (32.5%). Postoperative operations: appendectomy - in 7 (17.5%), tonsillectomy - in 8 (20.0%), ovarian resection - in 5 (12.5%), cystectomy - in 2 (5.0%), operations on fallopian tubes for ectopic pregnancy - in 4 (10.0%). Among gynecological diseases chronic adnexitis - in 22 (55.0%), chronic cervicitis - in 11 (27.5%). Infertility duration in the 1st group of patients averaged 3 years (Table)

Allergic anamnesis was reported by 19 (47.5%) patients from the main group and 2 (10.5%) women from the control group. Moreover, in the main and control groups of women there were 9 and 2 (respectively) patients who were allergic to antibiotics, and in the main group 2 (5.0%) there was eczema and 12 (30.0%) vasomotor rhinitis.

All our patients were examined for the presence of sensitisation to 20 allergic molecules, and animal epidermis extracts cats, dogs, rats, mice, cows, goats, sheep, horses, pigs, rabbits, guinea pigs and hamsters. Sensitisation to 16 allergic molecules and food extracts of animal origin, in particular, molecules of chicken protein and egg yolk, cow milk of camels, goats, horses and sheep, as well as allergens of chicken, turkey, beef, lamb, horsemeat were also assessed.

As a result of the conducted researches it is established that women with infertility in the profile of sensitisation have much more molecules and extracts with which they react than in the control group.

Thus, the patients with infertility were involved in the allergic sensitisation of 10.55 particles, while in the control group only 3.8 molecules (Table). Also, women with infertility have awareness to the allergenic molecule Feld 2, which is a cat's album, and the presence of IgE to the epidermis of the cow, goat, guinea pig and hamster.

In women of the control group no sensitisation and clinical significant reaction to respiratory allergens of animal epidermis was detected. The exception was cat molecules of Feld 2, to which IgE was detected only in one woman from the control group.

It should be noted that women suffering from infertility were found to be sensitized to animal food allergens: specific IgE to beef 9 (22.5%), to horsemeat - 8 (20.0%), to the rabbit - 4 (10.0%).

In conclusion, it can be said that 8 (20.0%) infertile patients were sensitized to animal allergens: to cat albumin, to cow meat and to cow epidermis. Also, allergic diseases occurred in 14 (35.0%), and 11 (27.5%) women reported allergic reactions to different groups of antibiotics.

According to the results of our study, it is obvious that 47.5% of women suffering from infertility have increased sensitisation to allergens of different origins, which is likely to lead to increased awareness to the sex cells of the husband, seminal fluid and makes it impossible to fertilise.

Taking into account these facts, it is necessary to consider the pathogenesis of infertility, taking into account the emergence of sensitisation of the woman to various allergens. In the diagnosis of infertility in the complex examination of couples should include screening for allergies not only to sperm but also to food, animals and other types of allergens occurring in the environment. All this will provide the opportunity to develop a personalised approach to the treatment of infertility couples and will contribute to the effectiveness of infertility treatment. It should be noted that it is also necessary to carry out a strict account of the proper sensitisation of the patient during the various programs of assisted reproductive technologies.

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