

## Identification and treatment of leukocytospermia in infertile men

Sadri Ardekani H. (M.D.)<sup>1</sup>, Akhondi M.A. (Ph.D.)<sup>1,2</sup>

1- Reproductive Biotechnology Research Center, Avesina Research Institute, ACECR, Tehran, Iran.

2- Monoclonal Antibody Research Center, Avesina Research Institute, ACECR, Tehran, Iran.

### Abstract

Leukocytes in the male genital tract and seminal fluid play a complex and dynamic role. Leukocytes are found in virtually every ejaculate and function at multiple levels. Presence of high leukocyte counts in seminal fluid is an important indicator of male genital tract infection or inflammation. In many studies, leukocytospermia has been associated with male infertility. Decreased sperm count and motility, as well as increased abnormal sperm morphology and a high frequency of immature germ cells, have been reported in men with leukocytospermia. According to the World Health Organization, leukocytospermia is defined as the presence of  $1 \times 10^6$  WBCs per milliliter of semen. Methodological problems have been found to interfere in differentiating WBCs from immature germ cells that are present in the seminal fluid. For clinical purposes, peroxidase staining is the most practical method of leukocyte detection in semen.

A large number of studies have shown a wide range of leukocytospermia incidence in infertile men (from 2% to 35%). The majority of studies with the largest number of cases have estimated the prevalence of leukocytospermia to be between 12 and 20% among all infertile men.

The assumption that leukocytospermia is merely the result of a subclinical male genital tract infection is not correct. Environmental factors such as smoking, alcohol consumption, and marijuana use, increase the number of WBCs in semen. Prolonged abstinence and certain sexual practices, such as anal sex, may also cause leukocytospermia. Nowadays, numerous scientific evidences refer to leukocytes and their products as effective factors on sperm and their functions. It is thus strongly believed that diagnosis of leukocytospermia and its causative agents as well as its treatment play a crucial role in evaluation of infertile couples.

**Key Words:** Leukocytospermia, Infertility, Peroxidase, Seminal fluid, WBCs, Urogenital tract infections.

**Corresponding Author:** Dr. Mohammad Mehdi Akhondi, Reproductive Biotechnology Research Center, Avesina Research Institute, ACECR, Shahid Beheshti University campus, Velenjak, P.O.Box: 19835-177, Tehran, Iran.

**E-mail:** akhondi@avesina.ac.ir