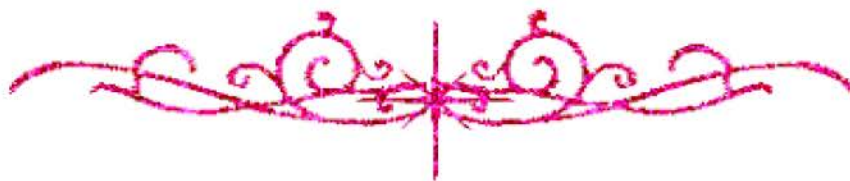


بسم الله الرحمن الرحيم





شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

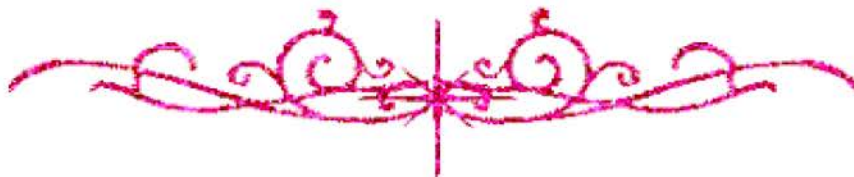
قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات



يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



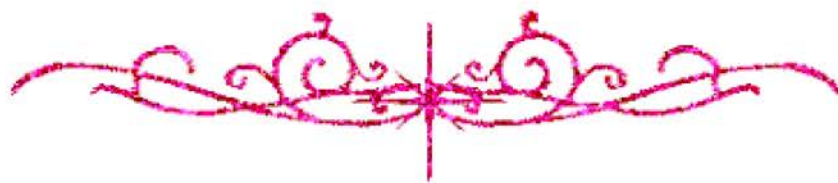


بعض الوثائق الأصلية تالفة





بالرسالة صفحات
لم ترد بالأصل





B127A2

LEUKOCYTOSPERMIA AND ITS EFFECTS ON SEMEN PARAMETERS AND HOS TEST

THESIS

SUBMITTED IN PARTIAL FULFILMENT
FOR THE MASTER DEGREE IN
DERMATOLOGY, VENEREOLOGY & ANDROLOGY

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*Hisham Diab Gaber
2005*

CONTENTS

| | Page |
|---|------|
| INTRODUCTION AND AIM OF THE WORK..... | 1 |
| REVIEW OF LITERATURE..... | 3 |
| Host defenses against genital tract infections..... | 3 |
| Semen analysis..... | 9 |
| Hypo-osmotic swelling test (HOS test)..... | 24 |
| Genital tract infection..... | 30 |
| Leukocytospermia..... | 45 |
| Effect of leukocytospermia on semen parameters..... | 61 |
| Effect of leukocytospermia on HOS test..... | 65 |
| MATERIAL AND METHODS..... | 67 |
| RESULTS..... | 80 |
| DISCUSSION..... | 104 |
| SUMMARY AND CONCLUSION..... | 113 |
| REFERENCES..... | 117 |
| ARABIC SUMMARY..... | |

List Of Abbreviation

| | |
|-------------------------------|---|
| AIDS | : Acquired immunodeficiency syndrome. |
| ATP | : Adenosine triphosphate. |
| C3 | : Complement 3. |
| cAMP | : Cyclic adenosine monophosphate. |
| CASA | : Computer aided sperm analysis. |
| CRP | : C-reactive protien. |
| DNA | : Deoxy ribonucleic acid. |
| EPS | : Expressed postatic secretions. |
| GU | : Genito-urinary. |
| HIV | : Human immunodeficiency virus. |
| HGF | : Hepatocyte growth factor. |
| HOS | : Hypo-osmotic swelling. |
| H ₂ O ₂ | : Hydrogen peroxide. |
| HPF | : High power field. |
| IBT | : Immunobead test. |
| ICSI | : Intra-cytoplasmic sperm injection. |
| IFN- γ | : Interferon gamma. |
| IgA | : Immunoglobulin A. |
| IgG | : Immunoglobulin G. |
| IL | : Interleukin. |
| IUI | : Intrauterine insemination. |
| IVF | : In-vitro fertilization. |
| LCR | : Ligase chain reaction. |
| MAR | : Mixed antiglobulin reaction. |
| NADP | : Nicotinamide adenine dinculeotide phosphate. |
| O ₂ | : Superoxide anion. |
| OH | : Hydroyl radical. |
| PAF | : Prostatic antibacterial factor. |
| PCR | : Polymerase chain reaction. |
| PMNL | : Polymrphonuclear leukocytes. |
| ROS | : Reactive oxygen species. |
| ROS-TAC | : Reactive oxygen species-total antioxidant capacity. |
| SPA | : Sperm penetration assay. |
| STD | : Sexually transmitted disease. |
| Th | : T -helper. |
| TNF- α | : Tumour necrosis factor alpha. |
| WBC | : White blood cell. |
| WHO | : World Health Organization. |

INTRODUCTION

&

AIM OF WORK

Introduction And Aim Of The Work

Leukocytospermia,^{1,5} defined as concentration of more than 10^6 leukocytes/ml. of seminal fluid (WHO, 1999).

The prevalence and clinical significance of white blood cells (WBCs) in semen are currently a matter of controversy (Arata de Bellabarba et al., 2000). The frequency of leukocytospermia in male infertility patients may vary from 10% to 20% (Wolff, 1998).

The presence of increased number of leukocytes in semen is indicative of inflammation in the male genital tract (Villegas et al., 2002). However, there is a surprisingly weak association between leukocytospermia and semen microbiology (Wolff, 1995 and Trum et al., 1999).

Although most studies have found that the presence of WBCs has a negative influence on semen parameters (Aitken et al., 1991; Thomas et al., 1997 and Arata de Bellabarba et al., 2000), others have reported that there is no effect of leukocytospermia on semen parameters (Tomlinson et al., 1992 and Tomlinson et al., 1993). Moreover, Kaleli et al. (2000) reported that leukocytospermia has a favorable effect on some sperm functions.

Hypo-osmotic swelling test (HOS) is a simple test based on the semipermeability of the intact cell membrane which causes spermatozoa to swell under hypo-osmotic conditions (WHO, 1999).

HOS test is used to determine the functional integrity of the sperm plasma membrane. Human sperm viability is essential for successful fertilization (Munuce et al. 2000).

The effect of leukocytospermia on HOS test was variable. Wolff, et al. (1990) have reported that there is no effect of leukocytospermia on HOS test but, Munuce et al. (1999) reported that HOS test was worse with leukocytospermia. On the other hand, Kaleli et al., (2000) found that increased HOS test score related to leukocytospermia.

Controversy exists concerning the exact role and the mechanism by which the genitourinary tract infections affect male fertility (Bar-Chama et al., 1994). Recently, Sikka et al. (2001) reported that localized acute or chronic infections of the male genitourinary (GU) tract leading to inflammation may have deleterious effects on sperm function and male fertility.

The aim of this work is to:

- 1- Study the effect of leukocytospermia (at different concentrations) on semen parameters and hypo-osmotic swelling test.
- 2- Determine microbiological infections associated with leukocyte-spermia and its effect on semen parameters and HOS test.

REVIEW
OF
LITERATURE

Host defenses against genital tract infection

Genital tract possesses various systems of defenses against the infectious risk, which appear complementary, additive and even synergistic. These defenses comprise non immune strategies: passive (synthesis of protective mucus, epithelial barrier) or active (inflammatory reaction), which are likely very efficient to limit the infectious inoculum. Pre-immune defense strategies, both humoral and cellular, yet not well understood, are also possibly involved in rapid protection pre-existing before antigenic stimulation. When these initial lines of defenses have failed, acquired and specific immune mechanisms, occur progressively (Belec, 2002).

A) Non immunological mechanisms:

1) Skin and mucosa:

The skin of the genital tract is keratinized stratified squamous epithelium and there are very few if any micro-organisms that can penetrate intact skin. Of course, ulcerative disease or any break of the skin or mucosa will increase the risk of infection. Sebaceous secretions (contain fatty acids) have a high NaCl content and are acidic and thus inhibit most pathogenic micro-organisms (Hart, 1998).

The urethra is the portal of entry for most genitourinary pathogens (Fowler, 1989). The fossa navicularis of the male urethra is lined by stratified squamous epithelium, and higher up is columnar or transitional