

# CORRELATION BETWEEN SEMEN INTERLEUKIN-17 AND SEMINAL PARAMETERS IN INFERTILE MALES

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## INTRODUCTION

Despite all the defense mechanisms and immune-privileged properties of the testes, infection, inflammations and autoimmunity have a great burden on male fertility. About 10 % of infertility in male is accredited to auto-immune or inflammatory problems. Reproductive tract infections represent about 3 % of the health problems in men worldwide according to the World Health Organization.

New rising cytokine in inflammatory process and as provocation factor for many other cytokines and regulating them is interleukin 17 (IL17).

We know that any inflammatory problem has a great burden on male infertility, this inflammation starts with T-lymphocyte subsets, in which TH17 cells plays a major role. IL-17 found to affect the blood testicular barrier and thus may trigger autoimmunity and inflammation to the testis, IL17 disrupts Sertoli cell barrier. IL17 enhances recruitment of other immune cells specifically macrophages, and itself IL17 leads to harmful effect on germ cell and seminiferous epithelium

## Aim of the work

To evaluate the correlation between semen IL-17 level with seminal parameters in infertile males.

## PATIENTS

Patients and controls were selected through strict inclusion and exclusion criteria, any person with suspected or diagnosed illness which increases IL-17 were excluded. All persons have done routine general and genital examination, routine semen analysis by CASA, hormonal profile, scrotal ultrasound, and IL-17 level in seminal plasma.

Semen was collected from all 50 male patients of Andrology Outpatient Clinic of the Main University Hospital, Faculty of Medicine, University of Alexandria, and 20 normal persons as volunteers with abstinence period of 3-5 days, all semen samples were put in 37c for liquefaction.

## METHODS

All samples analyzed for routine semen analysis and for WBC count by ortho-touluidine method for staining peroxidases, then the samples centrifuged for thirty minutes at speed of 2000-3000 round per minute (rpm), and then removed supernatant and if precipitate appeared we centrifuge the sample again, the semen interleukin-17 is measured through IL-17 kit, from Sinogeneclon CO., Ltd with Reference SG-11084.

## RESULTS

Table 1: Comparison between the two studied groups according to IL17

IL17	Cases (n = 50)	Control (n = 20)	U	P
Min. – Max.	0.0 – 8.75	0.0 – 2.34	159.50*	<0.001*
Mean ± SD.	2.42 ± 2.43	0.28 ± 0.66		
Median (IQR)	1.83 (0.37 – 4.24)	0.0 (0.0 – 0.12)		

Semen IL-17 was significantly higher in infertile patients.

Table2: correlation between semen IL17 levels and leucocyte count and Varicose veins presence

	N	IL17			Test of Sig.	P
		Min. – Max.	Mean ± SD.	Median		
<b>White blood cells count</b>						
Normal (<1)	41	0.0 – 8.75	2.07 ± 2.26	1.37	U= 106.0*	0.048*
Abnormal (>1)	9	0.27 – 7.46	4.0 ± 2.73	4.24		
<b>Varicose veins</b>						
Negative	11	0.0 – 0.48	0.16 ± 0.19	0.11	U= 28.50*	<0.001*
Positive	39	0.0 – 8.75	3.05 ± 2.40	2.38		

Semen IL-17 significantly correlate with WBC count and varicose vein prescence.

## Conclusion

We found that IL-17 level was higher in infertile males. Also we found that Interleukin-17 increased in patients with leucospermia, and in patients with varicose veins, and so may have a role in the inflammatory process caused by those conditions. We could not found any correlation between IL-17 and sperm number, motility, morphology, PH, and vitality.

