EFFECT OF DIFFERENT SEMEN PARAMETERS ON INTRACYTOPLASMIC SPERM INJECTION OUTCOME IN SEVERE OLIGOZOOSPERMIC MEN

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Introduction

Infertility is a critical component of the reproductive health, it affects an estimated 15% of couples globally, amounting to 48.5 million couples.

It may lead to a reduction in quality of life as well as rising in marital conflict and sexual dysfunction. Infertility has physical, psychological, emotional, and economic impact, Males are shown to be responsible for 20-30% of infertility cases on their own and contribute to 50% of instances altogether, with around 7% of all men affected.

Role of Assisted Reproductive Technology

Assisted Reproductive Technologies (ART) have been available for more than three decades, that help in more than 5 million children born worldwide from ART interventions, Developments in assisted reproductive technology may bring hope to a lot of couples all over the world.

Aim of the work

To assess the relation between various grades of low sperm motility and different patterns of abnormal sperm morphology with the results of ICSI in oligozoospermic men.

Patients and Methods

A Retrospective cohort study was conducted for 124 partners in whom the male partners has severe oligozoospermia, with sperm count less than 5 million per ml, in the period from 2016 to 2020.

Infertility work up was done for both female and male partners and there are divided into four groups;

Group A: 62 cases with severe oligozoospermia and morphological abnormalities:

A1: 31 cases with neck abnormalities.

A2: 31 cases with head abnormalities.

Group B: 62 cases with severe oligozoospermia and motility abnormalities:

B1: 31 cases with reduced total motility.

B2: 31 cases with reduced progressive motility.

The long down-regulation protocol was used in all patients and ICSI also was done for all of them.

Results

Table (1):Comparison between the two studied groups according to fertilization rate

Fertilization rate	Group A		Group B		F	p
	A1 (n = 31)	A2 (n = 31)	B1 (n = 31)	B2 (n = 31)		
Min. – Max.	25.0 – 100.0	36.0 – 100.0	11.0 – 100.0	25.0 – 92.0	0.689	0.561
Mean ± SD.	64.42 ± 19.07	64.81 ± 16.43	58.55 ± 24.98	61.03 ± 18.09		
Median (IQR)	63.0(51.5 – 78.5)	63.0(51.5 – 76.0)	57.0(39.5 – 79.5)	60.0(46.0 – 74.0)		

The fertilization rate in the group (A1) ranged from 25.0 – 100 with a mean value of 64.42 ± 19.07, while in the group (A2) it ranged from 36.0 – 100 with a mean value 64.81 ± 16.43. In group (B1) it ranged from 11 to 100 with a mean value 58.55 ± 24.98, and in group (B2) it ranged from 25 to 92 with a mean value 61.03 ± 18.09. There was no significant difference regarding the fertilization rate between the studied groups (p=0.561).

Table (2): Comparison between the two studied groups according to pregnancy rate:

	Group A				Group B				χ^2	p
Pregnancy	A1 (n = 31)		A2 (n = 31)		B1 (n = 31)		B2 (n = 31)			
	No.	%	No.	%	No.	%	No.	%		
Negative	7	22.6	7	22.6	12	38.7	13	41.9	4.601	0.203
Positive	24	77.4	24	77.4	19	61.3	18	58.1		

The number of pregnancy positive cases in group A1 was 24 in a percentage of 77.4 and negative pregnancy cases was 7 cases in a percentage of 22.6. Also, the pregnancy rate in group A2 has the same results, while it was different in group B1 which achieved positive 19 cases in a percent of 61.3 and a negative 12 cases in a percent of 38.7, and group B2 has a 18 pregnancy positive cases in a 58.1% and a 13 pregnancy negative cases in 41.9%. The p value was 4.601 of no statistical significance.

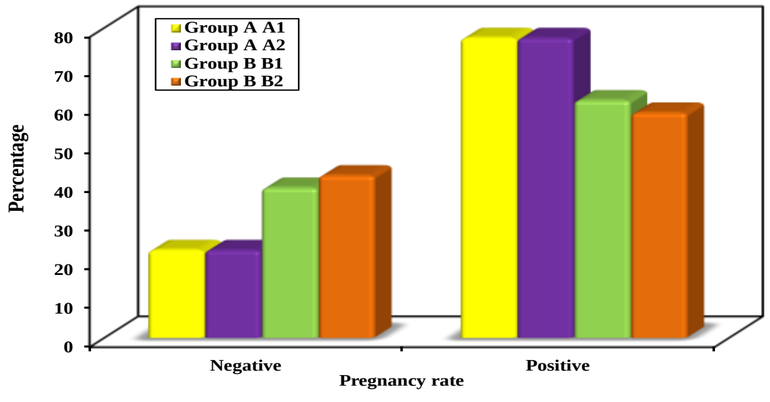

Figure (1) : Comparison between the two studied groups according to pregnancy rate:

Conclusion

The results of ICSI were proved not to be affected by severity of abnormalities in the main semen parameters and presence of these abnormalities can't predict the pregnancy rate in infertile couples with severe male factor, as analyzed data didn't show any significant differences.