

COMPARISON OF OBSTETRICAL AND NEONATAL OUTCOMES BETWEEN FRESH VERSUS FROZEN-THAWED TESTICULAR SPERM DERIVED FROM microTESE OF NOA PATIENTS

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INTRODUCTION

There are limited data regarding the obstetrical and neonatal outcomes of pregnancies following ICSI with fresh versus frozen-thawed testicular sperm.

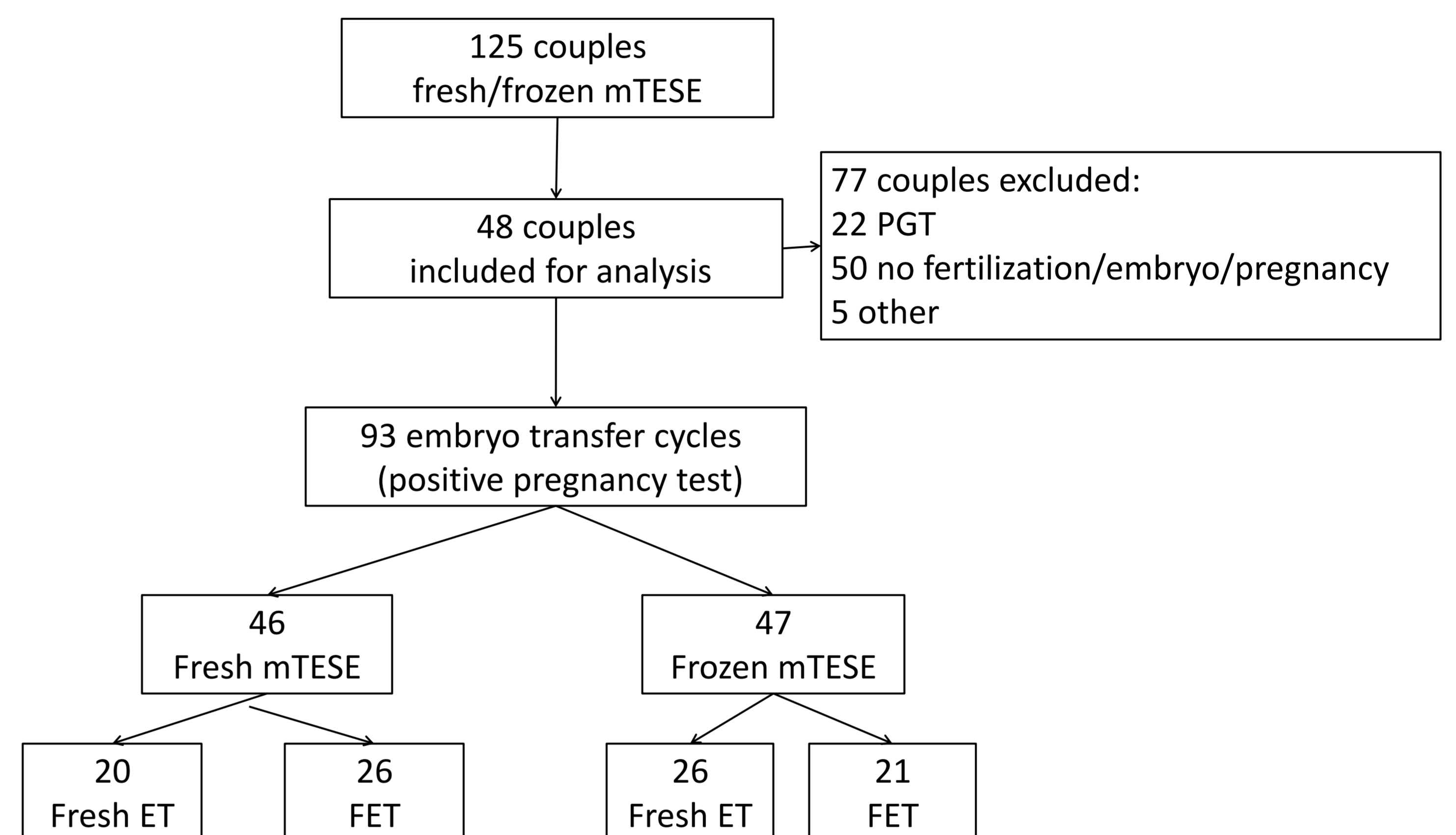
OBJECTIVES

Study aim was to compare obstetrical and neonatal outcomes following embryo transfer (ET) cycles resulted in pregnancy, between fresh vs. frozen-thawed testicular sperm derived from microTESE (mTESE) in men diagnosed with non obstructive azoospermia (NOA).

STUDY DESIGN

A single center, retrospective cohort study, conducted between January 2010 to December 2021. Inclusion criteria: Fresh and frozen-thawed ET cycles following either fresh or frozen mTESE retrieved sperm from men with NOA that resulted with pregnancy. Data retrospectively collected from the computerized and manual patients' files, 'Gertner' national database and telephone contact. Primary outcome was birthweight percentile.

Pregnancy outcome, n (%)	Fresh mTESE (n=46)	Frozen mTESE (n=47)	P value
Chemical pregnancy	6 (13.3)	9 (19.1)	0.450
Clinical pregnancy	40 (87)	38 (80.9)	0.423
No. of sac implantation			
One	30 (76.9)	30 (78.9)	0.256
Two	9 (23.1)	5 (13.2)	
Three	0	2 (5.3)	
1st trimester MA	10 (25.6)	10 (26.3)	0.946
2nd trimester MA	0	0	NA
TOP	0	0	NA
EUP	0	1 (2.6)	0.494
Live birth	26 (72.2)	27 (75.0)	0.789
Obstetrical outcome	Fresh mTESE (n=26)	Frozen mTESE (n=27)	P value
Mean delivery pregnancy week, mean±SD	38.6 ± 1.7	38.6 ± 2.1	0.889
Delivery mode, n (%)			
NVD	13 (50)	11 (44)	0.401
CS	12 (46.2)	10 (40)	
VE	1 (3.8)	4 (16)	
HTN/PET, n (%)	3 (12.5)	2 (9.5)	1
GDM, n (%)	3 (13)	3 (14.3)	1
IUGR, n (%)	2 (8.7)	0	0.489
IUFD, n (%)	0	0	NA
PPROM, n (%)	0	0	NA
PTL, n (%)	2 (8.3)	4 (16.7)	0.666
Placental factors, n (%)	2 (9.1)	1 (5)	1
Multiple pregnancy, n (%)	6 (25)	6 (22.2)	0.816



RESULTS

125 couples underwent embryo transfer cycles with testicular sperm extracted during mTESE procedure. Of them, 48 couples, who met the inclusion criteria underwent 93 ICSI cycles, which were divided into two groups; fresh (46 cycles, 49.5%) or frozen (47 cycles, 50.5%) testicular sperm. Comparison of patients' basic characteristic and embryo transfer cycle parameters showed no significant clinical differences between the groups. No significant differences were found in pregnancy or obstetrical outcomes. No significant differences was found in birthweight percentile.

Neonatal outcome – all	Fresh mTESE (n=31)	Frozen mTESE (n=30)	P value
birth weight (gr), mean±SD	2918.55 ± 666.7	2981.17 ± 671.0	0.716
birth weight percentile (%), mean±SD	49.94 ± 29.9	53.03 ± 26.9	0.673
Gender, n (%)			
Female	14 (45.2)	12 (40)	0.684
Male	17 (54.8)	18 (60)	
Neonatal outcome – singleton	Fresh mTESE (n=21)	Frozen mTESE (n=23)	P value
birth weight (gr), mean±SD	3177 ± 657.6	3236 ± 448.8	0.728
birth weight percentile (%), mean±SD	50.86 ± 34.0	55.48 ± 25.2	0.615
Gender, n (%)			
Female	8 (38.1)	6 (26.1)	0.393
Male	13 (61.9)	17 (73.9)	
Neonatal outcome – multiple	Fresh mTESE (n=10)	Frozen mTESE (n=7)	P value
birth weight (gr), mean±SD	2374 ± 185.7	2141.43 ± 603.7	0.696
birth weight percentile (%), mean±SD	48 ± 19.9	45 ± 32.5	0.845
Gender, n (%)			
Female	6 (60)	6 (85.7)	0.338
Male	4 (40)	1 (14.3)	

CONCLUSIONS

No significant differences were found in pregnancy or obstetrical outcomes when comparing ET cycles using fresh or frozen-thawed testicular sperm retrieved from mTESE.

There is no association between the sperm source and birthweight of newborns.