

Description of personal, medical and obstetric history among Group 1 cases.

		Mean	±SD	Minimum	Maximum
Age		28.6	4.2	20.0	38.0
BMI		27.7	4.8	18.0	39.0
Past Medical history		2	2.0%		
History of OHSS		3	3.0%		
Cause of infertility	Mixed	31	32.2%		
	Male factor	30	31.3%		
	Unexplained	27	28.2%		
	PCO	8	8.3%		
Type of Infertility	1ry	64	64.0%		
	2ry	32	32.0%		
	Sex selection	4	4.0%		
Parity	P0	79	79.0%		
	P1-3	18	18.0%		
	P>3	3	3.0%		

Description of hormonal profile among Group 1 cases.

	Mean	±SD	Minimum	Maximum	Median	IQR*	
FSH	6.9	1.7	1.5	11.5	6.8	5.9	7.8
LH	6.0	2.4	0.3	13.5	5.4	4.5	7.3
E2	37.9	13.8	5.0	81.0	35.5	28.8	45.5
Prolactin	15.7	8.4	0.4	42.0	14.2	10.0	21.5
AMH	3.7	1.8	1.2	10.0	3.4	2.4	4.8
TSH	2.3	1.2	0.2	7.8	2.1	1.5	2.9

*inter quartile range

Period of induction and last E2 before trigger among Group 1 cases.

	Mean	±SD	Minimum	Maximum	Median	IQR*	
Period of Induction	12.8	1.3	8.0	15.0	13.0	12.0	14.0
Last E2 before trigger	5490.9	1792.2	1763.0	9687.0	5292.0	4173.5	6562.0

*inter quartile range

Description of the characteristics of retrieved oocytes and embryos among Group 1 cases.

	Mean	±SD	Minimum	Maximum	Median	IQR*	
Cumulus Retrieved	20.9	7.6	6.0	49.0	20.0	15.5	25.0
M II	16.3	6.5	4.0	42.0	16.0	12.0	20.5
% of M II (oocyte maturation rate)	78.4	15.1	31.6	100.0	81.6	67.3	89.7
2PN	13.3	6.0	1.0	36.0	13.0	9.5	17.0
% of 2PN (Fertilization rate)	80.2	15.7	25.0	100.0	83.7	73.9	90.9
Blastocysts	6.9	4.2	0.0	20.0	7.0	4.0	9.0
% of Blastocysts (Blastulation rate)	50.0	21.8	0.0	100.0	50.9	40.0	65.0

*inter quartile range

Description of the characteristics of embryos transferred and type of Transfer among Group 1 cases.

		N	%
Number of Embryos transferred	1	10	10.0%
	2	90	90.0%
Quality of Embryos transferred	Fair	95	95.0%
	Good	4	4.0%
	Bad	1	1.0%
ET type	Frozen	100	100.0%

Description of study outcome among Group 1 cases.

	N	%
Biochemical pregnancy rate	79	79.0%
Clinical pregnancy rate	70	70.0%
No. of sacs	1	46 65.7%
	2	24 34.3%
Miscarriage rate (biochemical only and/or abortion)	9	9.0%
OHSS rate	3	3.0%
OHSS Degree	Mild	2 66.7%
	Moderate	1 33.3%

Description of personal, medical and obstetric history among Group 2 cases

		Mean	±SD	Minimum	Maximum
Age		29.4	5.2	18.0	40.0
BMI		27.5	4.8	18.0	39.7
Medical history		7	7.0%		
History of OHSS		0	0.0%		
Cause of infertility	Male factor	32	35.2%		
	Unexplained	28	30.7%		
	Mixed	26	28.6%		
	PCO	5	5.5%		
Type of Infertility	1ry	73	73.0%		
	2ry	18	18.0%		
	Sex selection	9	9.0%		
Parity	P0	77	77.0%		
	P1-3	21	21.0%		
	P>3	2	2.0%		

Description of hormonal profile among Group 2 cases.

	Mean	±SD	Minimum	Maximum	Median	IQR*	
FSH	7.3	2.1	.1	11.8	7.0	5.7	8.7
LH	5.5	2.8	.1	23.0	5.0	4.0	6.7
E2	40.4	15.2	.0	77.0	40.0	30.0	50.2
Prolactin	15.8	8.7	3.1	44.0	14.3	8.9	21.0
AMH	2.3	1.4	.4	7.1	2.2	1.2	3.2
TSH	1.9	1.0	.3	5.4	1.6	1.2	2.4

*inter quartile range

Period of induction and last E2 before trigger among Group 2 cases.

	Mean	SD	Minimum	Maximum	Median	IQR*	
Period of Induction	12.8	1.3	10.0	16.0	13.0	12.0	14.0
Last E2	2688.3	961.6	1043.0	6813.0	2551.0	2023.5	3301.5

*inter quartile range

Description of the characteristics of retrieved oocytes and embryos among Group 2 cases.

	Mean	±SD	Minimum	Maximum	Median	IQR*	
Cumulus Retrieved	13.9	6.9	4.0	42.0	13.5	9.0	17.0
M II	10.8	5.1	3.0	25.0	10.0	7.0	13.5
% of M II (oocyte maturation rate)	78.3	13.5	40.9	100.0	80.0	71.0	87.5
2PN	8.0	4.3	1.0	21.0	7.5	5.0	10.0
% of 2PN (Fertilization rate)	73.7	18.3	16.7	100.0	75.0	63.4	87.5
Blastocysts	4.1	3.4	.0	13.0	3.0	1.0	6.0
% of Blastocysts (Blastulation rate)	44.5	30.0	.0	100.0	45.0	21.1	67.9

*inter quartile range

Description of the characteristics of embryos transferred and type of Transfer among Group 2 cases.

		N	%
NO. of Embryos transferred	1	6	6.0%
	2	90	90.0%
	3	4	4.0%
Quality of Embryos transferred	Fair	53	53.0%
	Good	41	41.0%
	Bad	6	6.0%
ET type	Fresh	80	80.0%
	Frozen	20	20.0%

*inter quartile range

Description of study outcome among Group 2 cases.

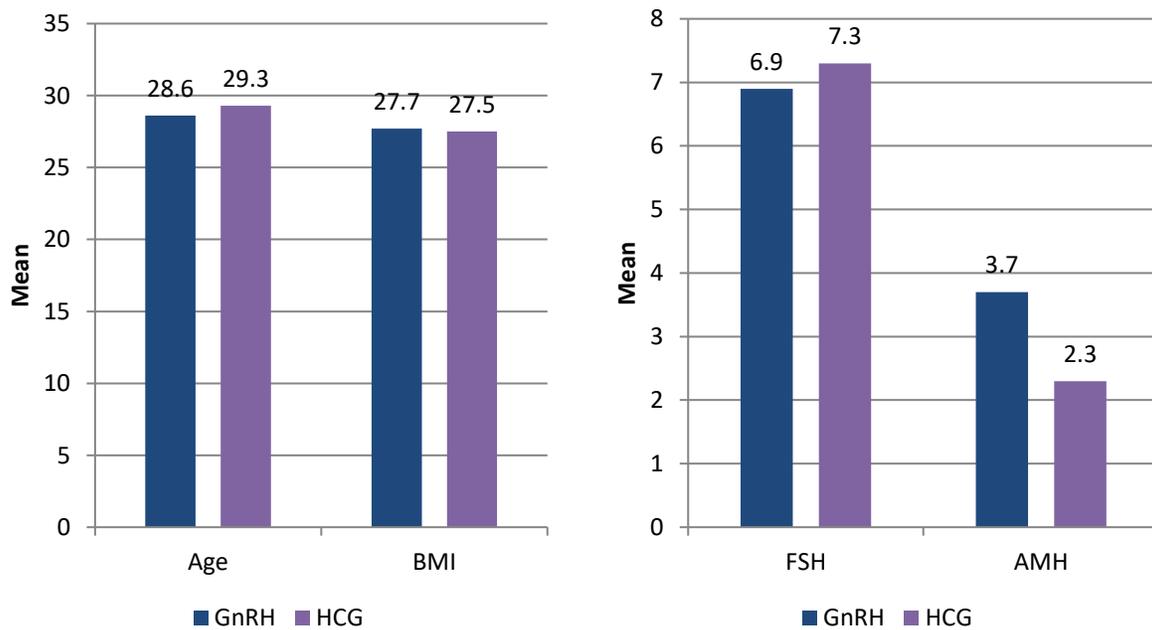
		N	%
Biochemical pregnancy rate		63	63.0%
Clinical pregnancy rate		56	56.0%
No. of sacs	1	30	53.6%
	2	26	46.4%
Miscarriage rate (biochemical only and/or abortion)		7	7.0%
OHSS rate		20	20.0%
OHSS Degree	Mild	17	85.0 %
	Moderate	2	10.0%
	Severe	1	5%

Comparison between the 2 groups as regard Age, BMI, FSH and AMH

	Group				P	Sig.
	GnRHa		HCG			
	Mean	±SD	Mean	±SD		
Age	28.6	4.2	29.3	5.2	0.269*	NS
BMI	27.7	4.8	27.5	4.8	0.795*	NS
FSH	6.9	1.7	7.3	2.1	0.127*	NS
AMH	3.7	1.8	2.3	1.4	0.001*	HS

*Student t test

There was no statistically significant difference between GnRHa and HCG as regard **age, BMI and FSH**, except for **AMH** where GnRHa had higher mean compared to HCG group (3.7±1.8 vs 2.3±1.4).

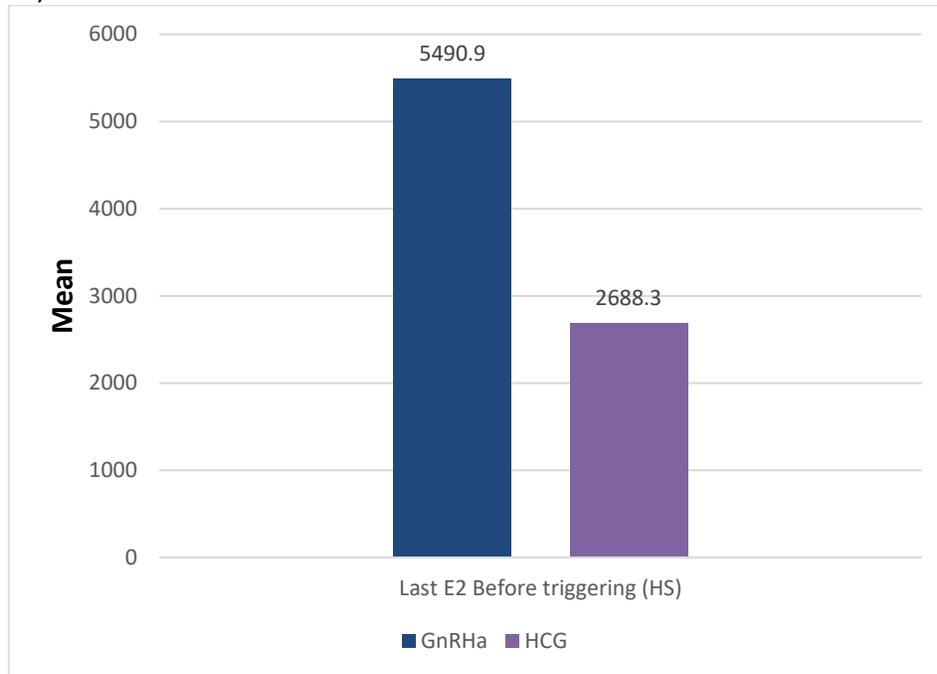


Comparison between the 2 groups as regard period of Induction and last E2.

	Group				P	Sig.
	GnRHa		HCG			
	Mean	±SD	Mean	±SD		
Period of Induction	12.8	1.3	12.8	1.3	0.205*	NS
Last E2	5490.9	1792.2	2688.3	961.6	0.001*	HS

*Student t test

There was no statistically significant difference between GnRHa and HCG as regard **period of Induction**. However, a statistically significant difference was found between GnRHa and HCG as regard **last E2** where GnRHa had higher mean compared to HCG group (5490.9±1792.2 vs 2688.3±961.6)



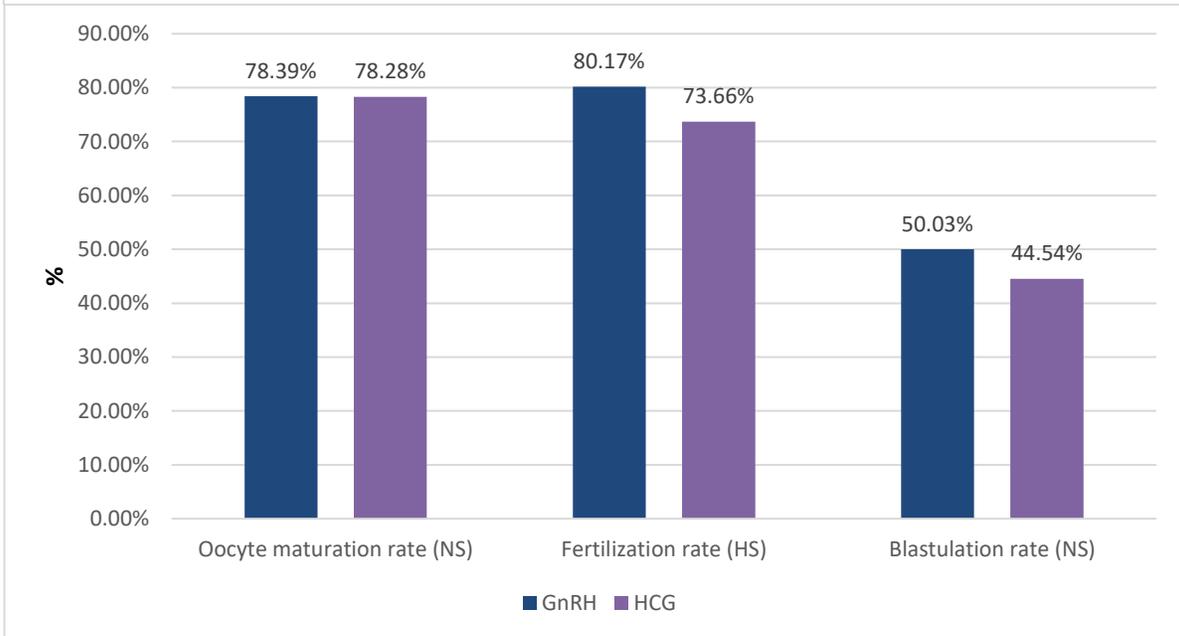
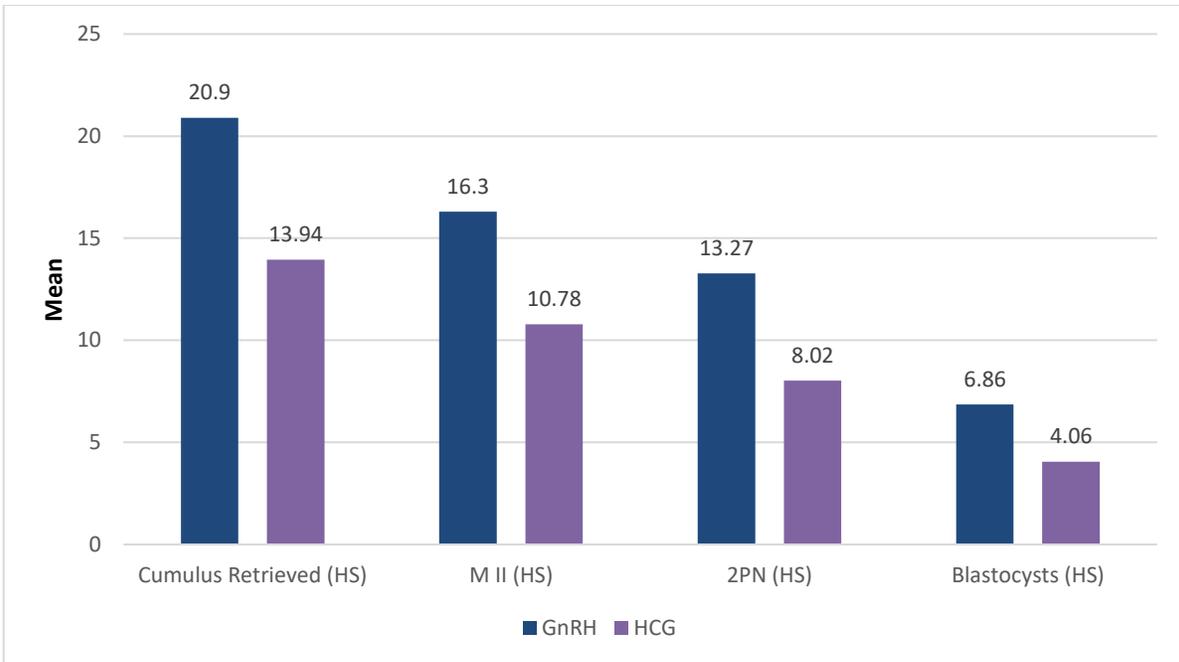
Comparison between the 2 groups as regard the characteristics of retrieved ovum

	Group										P	Sig.
	GnRHa					HCG						
	Mean	±SD	Median	IQR‡		Mean	±SD	Median	IQR‡			
Cumulus Retrieved	20.90	7.56	20.0	15.5	25.0	13.94	6.85	13.5	9.0	17.0	0.001*	HS
M II	16.30	6.45	16.0	12.0	20.5	10.78	5.12	10.0	7.0	13.5	0.001*	HS
% of M II	78.39	15.11	81.6	67.3	89.7	78.28	13.52	80.0	71.0	87.5	0.76*	NS
2PN	13.27	5.99	13.0	9.5	17.0	8.02	4.30	7.5	5.0	10.0	0.001*	HS
% of 2PN	80.17	15.73	83.7	73.9	90.9	73.66	18.29	75.0	63.4	87.5	0.006*	HS
Blastocysts	6.86	4.15	7.0	4.0	9.0	4.06	3.36	3.0	1.0	6.0	0.001*	HS
% of Blastocysts	50.03	21.79	50.9	40.0	65.0	44.54	30.04	45.0	21.1	67.9	0.165*	NS

‡inter quartile range

* Mann Whitney test

Although There was a high statistically significant difference between GnRHa and HCG in favor of GnRHa group with higher mean as regard to sum of no. of **Cumulus** retrieved (20.9±7.56 vs 13.5±6.85), no. of **MII** oocytes (16.3±6.45 vs 10±7) and no. of **Blastocysts** (6.86±4.15 vs 4.06±3.36), however, **no** statistically significant difference found between the 2 groups when comparing **Percentage of MII oocytes (oocyte maturation rate)** (78.39±15.11 vs 78.28±13.52) and **Percentage of Blastocysts (blastulation rate)** (50.03±21.79 vs 44.54±30.04). As for fertilization, a high statistically significant difference was found between GnRHa and HCG in favor of GnRHa group as regards to both **no. of Fertilized oocytes** (13.27±5.99 vs 8.02±4.3) and **Percentage of Fertilized oocytes (Oocyte fertilization rate)** (80.17±15.73 vs 73.66±18.29).



Comparison between the 2 groups as regard study outcome

1- Primary outcome. OHSS rate

		Group				P	Sig.
		GnRHa		HCG			
		N	%	N	%		
OHSS rate		3	3.0%	20	20.0%	0.001*	HS
OHSS Grade	Mild	2	66.7%	17	85.2%	0.47**	NS
	Moderate/severe	1	33.3%	3	15.8%		

*Chi-Square Tests

**Fisher's Exact Test

There was a high statistically significant difference between GnRHa and HCG groups as regard **OHSS rate**, with higher percentage of cases among HCG group (3% vs. 20%).

2- Secondary outcomes.

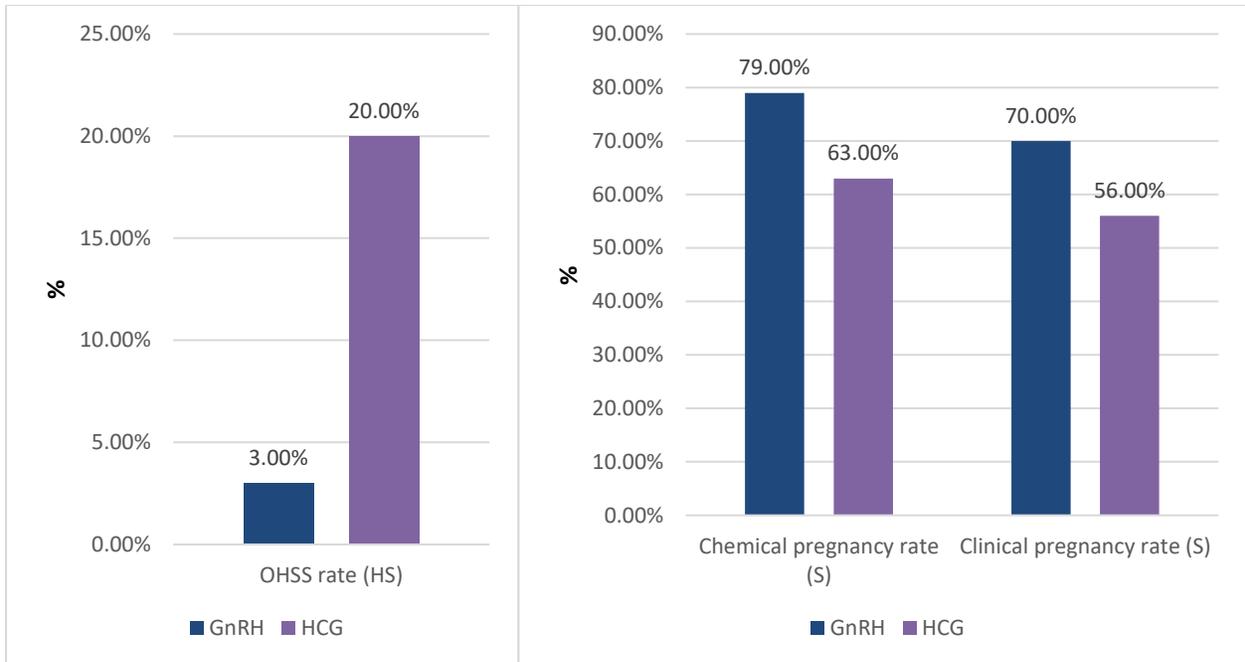
		Group				P	Sig.
		GnRHa		HCG			
		N	%	N	%		
Chemical pregnancy rate		79	79.0%	63	63.0%	0.013*	S
Clinical pregnancy rate		70	70.0%	56	56.0%	0.04*	S
No. of sacs	One	46	65.7%	30	53.6%	0.166*	NS
	Two	24	34.3%	26	46.4%		
Miscarriage rate (biochemical only and/or abortion)		9	9.0%	7	7.0%	0.602*	NS

*Chi-Square Tests

**Fisher's Exact Test

There was a statistically significant difference between GnRHa and HCG groups as regard **biochemical and clinical pregnancy**, with higher percentage of cases among GnRHa group (79% vs. 63% and 70% vs. 56% respectively). However, no statistically significant difference was found between GnRHa and HCG groups as regard **number of sacs**.

There was no statistically significant difference between GnRHa and HCG groups as regard **Miscarriage rate** (9% vs. 7%)



Comparison between low and high AMH group 2 (HCG) cases as regards OHSS.

		AMH				P	Sig.
		≤3.36		>3.36			
		N	%	N	%		
OHSS rate	No	68	85%	12	60.0%	0.021*	S
	Yes	12	15%	8	40.0%		
OHSS grade	Mild	11	100.0%	5	62.5%	0.058*	NS
	Moderate/severe	0	0.0%	3	37.5%		

*Fisher's Exact Test

In Group 2 (HCG) -the group with most OHSS cases- when comparing cases according to AMH level to find if there is an association between the level of AMH and incidence of OHSS. There was a statistically significant difference between the cases with AMH level more than 3.36 ng/ml and the cases with AMH 3.36 ng/ml or less.

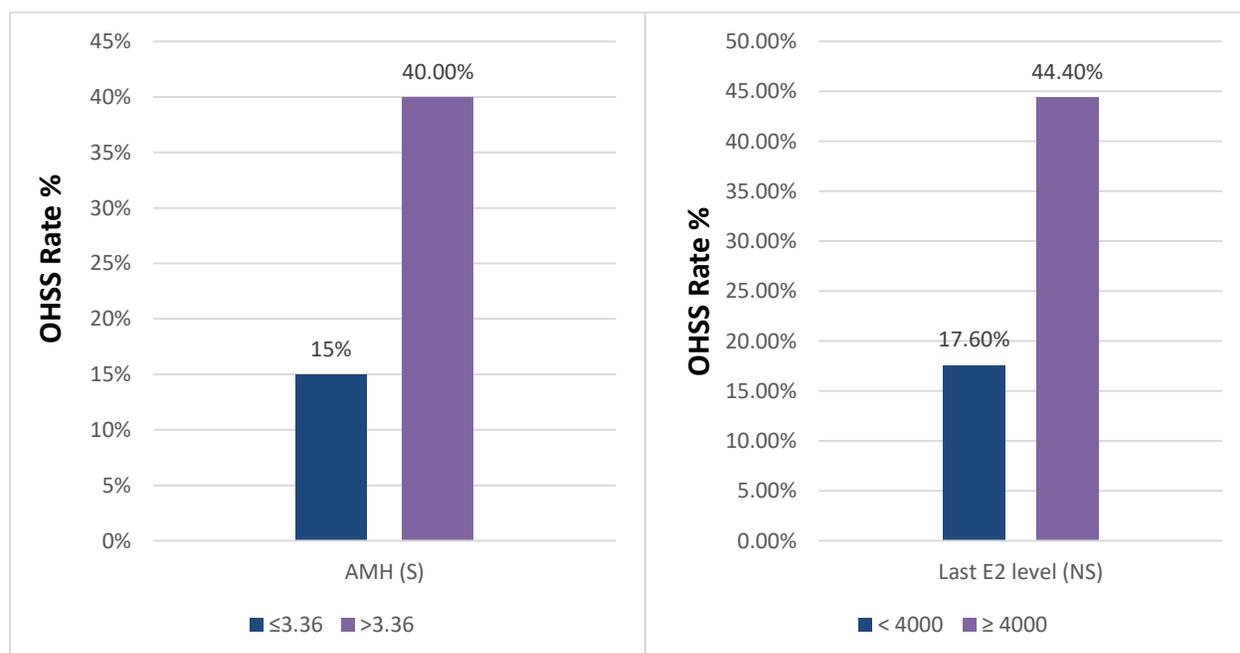
With higher percentage of cases among >3.36 group (40% vs. 15%).

Comparison between low and high last E2 group 2 cases as regards OHSS

		Last E2				P	Sig.
		< 4000		≥ 4000			
		N	%	N	%		
OHSS rate	No	75	82.4%	5	55.6%	0.06*	NS
	Yes	16	17.6%	4	44.4%		
OHSS grade	Mild	13	81.3%	4	100.0%	1.0*	NS
	Moderate/severe	3	18.7%	0	0.0%		

*Fisher's Exact Test

In Group 2 (HCG) -the group with most OHSS cases- when comparing cases according to Last E2 level before triggering to find if there is an association between the level of E2 and incidence of OHSS. There was no statistically significant difference between the cases with E2 level equal or more than 4000 pg/ml and the cases with E2 level less than 4000 pg/ml. Although there is a difference (44.4% and 17.6%) the difference was not statistically significant due to the small no. of cases with E2 equal to or more than 4000 pg/ml.



Comparison between the 2 groups as regard study outcome among frozen ET only cases

	Group				P	Sig
	GnRHa		HCG			
	N	%	N	%		
Biochemical pregnancy rate	79	79.0%	18	90.0%	0.358**	NS
Clinical pregnancy rate	70	70.0%	17	85.0%	0.170*	NS
Miscarriage rate (biochemical only and/or abortion)	9	9.0%	1	5.0%	1.0**	NS

*Chi-Square Tests

**Fisher's Exact Test

When comparing only cases with frozen embryo transfer in GnRHa Group (all cases in GnRHa Group) and cases with frozen embryo transfer in HCG group (20 cases with OHSS)

There was no statistically significant difference between the 2 groups regarding biochemical and clinical pregnancy (79% vs. 90%), (70% vs. 85%) respectively. Similarly, there was no statistically significant difference between GnRHa and HCG groups regarding Miscarriage rate (9% vs. 5%).

