RESULTS

Table (1): Descriptive data of study patients (number=60).

Patient characteristic	Finding
Age (y) (Mean ±SD)	31.4 ±4.5
Body Mass Index (BMI (kg/m2) (Mean ±SD)	23.45 ±3.22
Etiology (%) Male factor	 (32)53.3%
unexplained	(16)26.7%
Tubal disease	(12)20%

Table (2): Descriptive data of procedures protocol.

Protocol characteristic	Finding
Total antral follicle count (Mean ±SD)	15.07 ± 3.92
Days of stimulation (Mean ±SD)	11.20 ± 1.10
GnRH Agonist	(48)80%
GnRH Antagonist	(12)20%
Ampules of gonadotropins (Mean ±SD)	35.53 ± 10.1
Cycle day of hCG (Mean ±SD)	12.3 ±1.8
Total oocytes count (Mean ±SD)	13.80 ± 6.95
Mature oocytes count (Mean ±SD)	10.70 ± 6.08
Day 2 ET (%)	(44)73.3%
Day 3 ET (%)	(16)26.7%
Clinical pregnancy rate (%)	(21)35%

Table (3): Comparison between 2D and 3D ultrasound techniques as regarding quality of image and the time needed to obtain the required data among study group (number = 60).

Outcome Variable	2D technique	3D technique
Good quality image	—	43(71.7%)
Medium-poor quality image	60(100%)	17(28.3%)
manual measurements	100%	4.1%- 28%
Time(minutes) (Mean ±SD)	9.2±2	5.9±2

Table (4): Comparison between 2D and 3D ultrasound findings as regarding follicular count during controlled ovarian hyperstimulation.

Outcome Variable	2D (Mean ± SD)	3D (Mean ± SD)	P value
Follicle count (≥ 10 mm)	15.23 ± 7.54	16.53 ± 7.39	>0.05
Follicle count (≥ 15 mm)	6.47 ± 3.17	7.50 ± 2.53	>0.05
Follicle count (≥ 18 mm)	3.83 ± 2.82	3.37 ± 3.08	>0.05

This table shows that there is no statistically significant difference between 2D and 3D follicular count measurements among 3 groups (follicular diameter ≥ 10mm, ≥ 15mm, and ≥ 18mm)

Table (5): Correlation between follicular measurements obtained by conventional 2D and 3D ultrasound.

Outcome Variable	Cases
Correlation in all cases(60) No difference (P>0.05)	33(55%)
Significant difference (P<0.05)	27(45 %)
good quality images(43) No difference (P>0.05)	28 (65.1%)
Significant difference (P<0.05)	15 (34.9%)
medium-poor quality images(17) No difference (P>0.05)	6 (35.2%)
Significant difference (P<0.05)	11 (64.8%)

This table shows correlation between 2D and 3D ultrasonic follicular measurements in 55% of study group (33 cases) as a whole (60 cases). By sub-group analysis this correlation increased to 65.1% (28 cases) of cases with good image quality (43 cases) and decreased to 35.2% (6 cases) of cases with medium-poor image quality (17cases).

Table (6): Summary of various prediction models of oocyte count.

Model No.	Predictors	Coefficients[a]([a]P)	Explained variation (%)
1	D16–22	0.832	25.4%
2	V2–5	0.894	29%
3	E2	0.443	17.8%
4	D16–23	0.861	24.5%
5	V2–6	0.968	28.6%
6	D16–22	0.620	33.6%
	D10–15	0.554	
7	V2–5	0.714	38%
	D10–15	0.553	

D = Diameter (mm); **V** = Volum (mL).
[a]**P** = No. mature eggs received / No. of mature eggs predicted.
P<0.001 for all values

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This table summarizes the ability of various single and multiple variable combinations to predict mature oocyte count. It includes the explained variation percentage with each model and the coefficient for each predictor variable, which indicate the estimated increase in mean oocyte count for each unit increase in predictor. Model (7) had significantly highest explained variation percentage compared with other single and combined models.

Table (7): Summary of various follicular volume cutoffs.

Follicle volume cutoff	Number of mature oocytes/number of follicles in range	Number of follicles in range/number of mature oocytes
≥ 8 ml	121.26%	82.47%
≥ 7 ml	109.07%	91.69%
≥ 6 ml	94.11%	101.26%
≥ 5 ml	100.88%	98.60%
≥ 4 ml	88.74%	112.69%

This table shows the relationship between the number of mature oocytes and different follicular volumes. The number of follicles with a volume at or above (6ml) corresponds and very close to the number of mature oocytes that would be retrieved.