

Laparoscopic salpingectomy using Bipolar energy versus Harmonic and effect on ovarian reserve

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Introduction:

- 30% women with tubal pathologies are detected to have hydrosalpinx prior to IVF
- Prophylactic salpingectomy has shown to be beneficial in terms of increased pregnancy and live birth rates after IVF treatment
- Most of the studies have shown that salpingectomy leads to a significant decrease in ovarian reserve

Objective:

To compare the effect of Harmonic device v/s bipolar energy source used for salpingectomy on Ovarian reserve.

Methods:

Prospective randomized single blinded study

Inclusion criteria:

- Women with hydrosalpinx(ges)
- Seeking fertility treatment
- Age < 40 years
- Women willing to participate

Exclusion criteria:

- Age 40 years or above
- Endometriosis, Prior ovarian surgeries
- Poor ovarian reserve (FSH >12 mIU/ml, AMH < 2.0 ng/ml)
- Other female factors leading to infertility
- Any contraindications for laparoscopic surgery

Assessed for eligibility: 102 of which 92 recruited

Baseline ovarian reserve checked by Day 2-4 FSH/ AMH and Antral follicle count by Transvaginal ultrasound.

Randomised to two groups. Group 1-salpingectomy with bipolar energy device

Group 2- salpingectomy with harmonic device

Followed till end: 34 in Group 1 and 32 in Group 2 Post salpingectomy

Ovarian reserve was checked again by the same parameters after 6 to 8 weeks of surgery.

Results

Baseline variables and intraoperative parameters comparable in two groups

Changes in OVARIAN RESERVE parameters after intervention

	Pre surgery			Post surgery		
	Bipolar group	Ultrasonic shear group	P value	Bipolar group	Ultrasonic shear group	P value
S. FSH (IU/L)	6.6 ± 2.1	6.6 ± 0.4	0.48	7.3 ± 2.9	6.9 ± 0.4	0.74
S. AMH (ng/ml)	3.9 ± 2.9	3.8 ± 2.6	0.31	3.2 ± 2.9	3.6 ± 2.5	0.47
AFC	8 ± 2.2	8.6 ± 0.5	0.171	5.7 ± 2.3	7.9 ± 2.7	0.0002
Ovarian size in right (cm)	3.3 ± 0.7	3.2 ± 0.5	0.556	3.4 ± 0.8	3.3 ± 0.6	0.695
Ovarian size in left (cm)	3.2 ± 0.6	3.2 ± 0.5	0.477	3.2 ± 0.8	3.3 ± 0.6	0.396

AFC was significantly reduced in **Bipolar group**, rest all parameters were not statistically different between the two arms

Conclusion:

Although cost is an issue, use of Harmonic energy source was associated with lower decline in ovarian reserve as compared to Bipolar energy source and the difference was statistically significant. However, randomised study on a larger scale would be required to support or refute the results of our study.