



**EFFICACY OF SUPER-PULSE THULIUM FIBER LASER
IN ENDOSCOPIC MANAGEMENT OF LOWER URETERIC STONES
IN INDIAN POPULATION:
A SINGLE CENTER STUDY**

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Introduction

Super-Pulse Thulium fiber laser – a novel intracorporeal lithotripter

- ❖ several advantages over Holmium-YAG laser including
 - small fibers,
 - lower energy per pulse (up to 0.025 J), and
 - higher maximal pulse repetition rate (up to 2000 Hz)

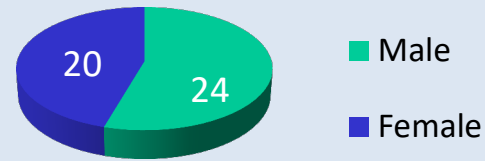
Objective:

- to evaluate the efficacy of Super-Pulse Thulium fiber laser in management of lower ureteric stones in Indian population

Materials and Methods

- Total 44 patients (age 18 to 60) with lower ureteric stones undergone URS through semi-rigid scope
- Super-Pulse Thulium fiber laser with 200 μ fiber was utilized.
- Settings
 - for fragmentation : 2-6J,5-10Hz,
 - for dusting at 0.2 J to 1J,10-30Hz & for
 - fine dusting at 0.025 to 0.1 J, 100-300Hz.
- Clearance of the stone, fragmentation time, stone retropulsion & complications were observed.

Results



Variable	Age(years)
Lowest value	19
Highest value	60
Arithmetic mean	40.2045
Median	39.5
Variance	148.12
Standard deviation	12.1705

Variable	Stone Size(mm)
Lowest value	6
Highest value	11
Arithmetic mean	8.2841
Median	8
Variance	2.7604
Standard deviation	1.6615

Variable	HU Density
Lowest value	470
Highest value	1210
Arithmetic mean	842.2727
Median	810
Variance	50534.2495
Standard deviation	224.7982

Variable	Fragmentation time(min)
Lowest value	9
Highest value	23
Arithmetic mean	13.9773
Median	14
Variance	14.2553
Standard deviation	3.7756

Variable	Number
Complication	4 cases(sepsis)
Retropulsion	0
Complete clearance	44(100%)

Conclusion

Super-Pulse Thulium fiber laser lithotripsy is promising in endoscopic management of lower ureteric stones.
A large randomized controlled study would be required for its extrapolation.