

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

DR TEJAS M. MISTRY  
SIR GANGA RAM HOSPITAL  
NEW DELHI

# 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

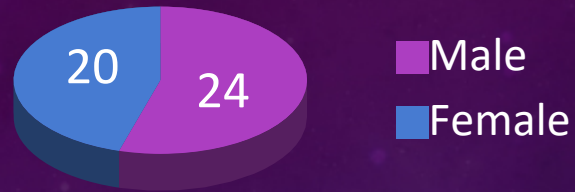
- to evaluate the efficacy of Super-Pulse Thulium fiber laser in management of lower ureteric stones in Indian population.

## 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 $\mu$  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	Number
Complication	4 cases(sepsis)
Retropulsion	0
Complete clearance	44(100%)

Variable	Age	Size	HU Density	Fragmentation time
Lowest value	19	6	470	9
Highest value	60	11	1210	23
Arithmetic mean	40 yrs	8.3 mm	842.27	13.97 min

## 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.