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Transperineal Laser Ablation (TPLA) of the prostate – the first UK patients treated

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PURPOSE / OBJECTIVES

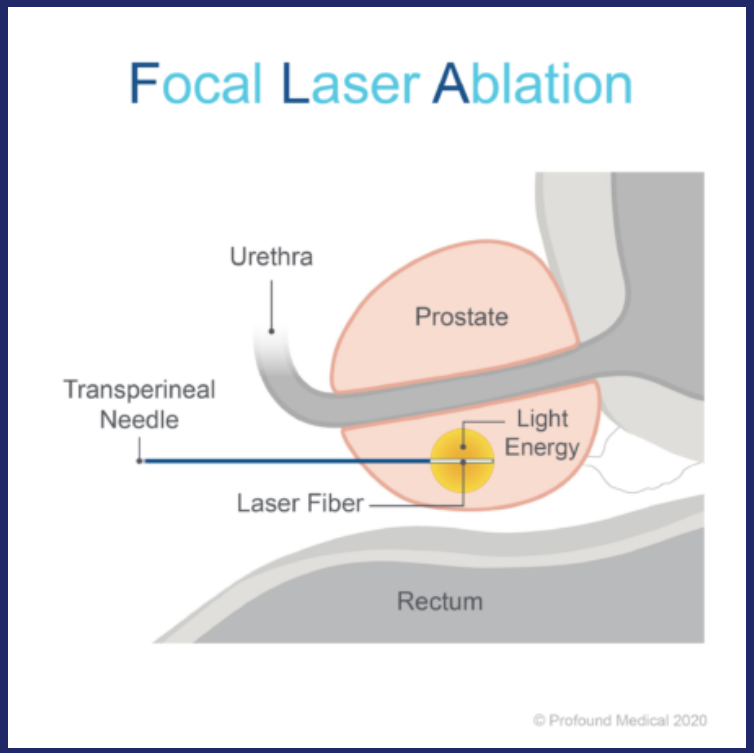
Transperineal laser ablation (TPLA) has been introduced as a novel minimal invasive treatment for BPO. The system used is unique because 4 laser sources are independently available. This 1064-nm diode laser induces coagulative necrosis. Moreover, TPLA is unique because it has a transperineal approach and can be performed under local anesthesia in an outpatient setting. We present the first cases performed on patients in the UK

MATERIAL & METHODS

Eight patients on the waiting list for surgical treatment of BOO and associated LUTS were offered the procedure after full disclosure of the novel nature of the procedure and the limited available published outcomes from the procedure (full ethics and new procedure committee review by the institution was carried out and permission to offer the treatment granted). Eligible patients were men ≥40 years of age, with a prostate volume of 20 to 120 cc, having urodynamically proven bladder outlet obstruction, and having a peak urinary flow of 5 to 15 mL per second. All patients underwent TPLA of their prostate under general anesthesia by using the EchoLaser system. Local anaesthetic was not used due to not possessing vast experience in TPLA. Depending on the prostate volume, 2 to 4 laser fibers were placed bilaterally into the prostate. Patient follow-up consists of uroflowmetry, PROMs, and imaging by using ultrasound. Total follow-up is at three months following treatment.

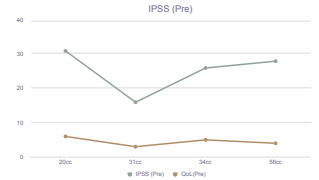
RESULTS

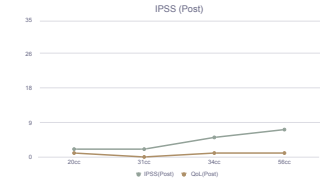
All eight patients had no perioperative complications. One patient experienced persistent marked retention post procedure and chose to proceed to a TURP a week following the procedure rather than wait for the effect of TPLA. There were four patients experiencing a doubling of their flow rates and dramatic improvement or no significant post void residual. Their QOL improved from either unhappy or terrible to either delighted or pleased.

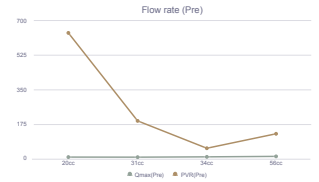


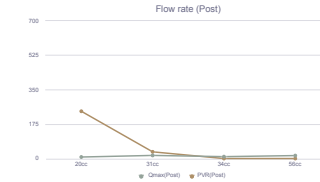
RESULTS

Case no.	Prostate size	IPSS (Pre)	QoL(Pre)	Qmax(Pre)	PVR(Pre)	IPSS(Post)	QoL(Post)	Qmax(Post)	PVR(Post)
1	20cc	31	6	4.8	640	2	1	7.7	240
2	31cc	16	3	4.4	190	2	0	15.8	34
3	34cc	26	5	6	50	5	1	9.6	0
4	56cc	28	4	8.4	124	7	1	15	0
5	80cc	23	4	6.2	153				
6	43cc	25	5	9.4	0				
7	30cc	17	5						
8	58cc	32	6	4	102	Failed - had TURP			
Avg (4 pts)	35.25	25.25	4.5	7.1	251	4	0.75	12.1	68.5









	IPSS(Post)	QoL(Post)	Qmax(Post)	PVR(Post)
Avg % change	60.5% decrease	62.5% decrease	109% increase	86.75% decrease

SUMMARY / CONCLUSION

TPLA in four out of eight of the patients had an excellent outcome at three month follow up. Further follow up and greater patient numbers will demonstrate if the treatment has a sustained effect and will also help in selecting the patient cohort who will most benefit. The technique is easy to adopt, particularly for Urologists who perform transperineal prostate biopsy. It also offers the potential of ablative therapy for focal prostate cancer.