643

Perkash I[1]
1. *Stanford University*

RECALCITRANT BLADDER NECK STENOSIS AND NON- TRAUMATIC POSTERIOR URETHRAL STRICTURES: DURABLE RESULTS FOLLOWING CIRCUMFERENTIAL LASER VAPORIZATION IN 25 PATIENTS

Hypothesis / aims of study: To present a long term follow up of the successful management of post radical recalcitrant bladder neck Stenosis and posterior urethral strictures refractory to dilatation and or endoscopic urethrotomy (DVIU). Current methods (1) of treatment for recalcitrant bladder neck contraction include a dilation with a soft catheter/balloon, placement of a metallic stent, and open reconstruction. The metallic stent is difficult to place, requires ongoing maintenance, involves tissue ingrowths, stone formation, and 71% are incontinent after placement of the stent. Published results of the alternative techniques with successful management are frustrating.

Study design, materials and Methods

Twenty five patients 26 to 72 years old are presented. There were 6 patients with recalcitrant bladder neck Stenosis following radical prostatectomy; five were able bodies and one was a spinal injured person. Nineteen others were spinal injury patients who had posterior urethral strictures with virtually closed urethra in all of them. Prior institutional review board approval was obtained for the follow up of the patients with urethral strictures.

After dilating with a filliform boogie and leaving a metal guide wire through a rigid 19 F cystoscope, an initial urethrotomy incision was made at 12 o'clock by retrograde vaporization with a Ho: YAG end fibre. This allowed the passage of the scope through the length of the stricture to determine the extent of stricture. Most of the fibrous tissue was then vaporized circumferentially without damaging any island of normal tissues or producing charring of the tissues. Urethral catheter was left overnight and the patients were discharged next day. Patients had cystoscopic pictures taken before and after the vaporization procedure. They were also followed and documented with transrectal Ultrasonography. Low level energy,(Ho: YAG laser ,0.6-1.5 joule X 5-10 Hz) was delivered through a 360um fibre in a contact mode.

In post radical prostatectomy patients adequate channel (about 32F) was created. The mean operation time was 32 minutes (range 15 to 57 minutes). No significant bleeding was encountered.

Results.

Patients had been followed for 2 to 5 years and were voiding adequately. Repeat vaporization was done in 2 post radical prostatectomy patients. It was easy. In one of the patients it was planned as a staged procedure to prevent any leakage. No leakage was complained beyond one pad a day in one post radical prostatectomy able body patient.

Interpretation of result

For recalcitrant bladder neck Stenosis and strictures of the posterior urethra, the durable results following circumferential vaporization of the scar tissue appear gratifying when compared to the other reported series. It is important to appreciate the use of low level laser (LLLT) setting in a contact mode, to precisely vaporize fibrous tissue and leave any islands of normal urethra intact. LLLT signalling increases cell proliferation, migration and adhesion molecules, cell survival is increased and cell death reduced by expression of proteins that inhibit apoptosis (3). The outcome results seem to be the best ever reported in the literature.

Concluding message

Laser vaporization can be considered a minimally invasive procedure when compared to repeated dilatations with resultant bactreamia, stents which are difficult to remove and produce constant leakage. It can even obviate open urethroplasty in majority of the patients.

References

1. Take-Home Notes from the AUA 2010.
2. Perkash, J. Urol. 1997, 24, 227
3. Gao X, Xing D.,Biomed Sci. 2009 Jan 12;16:4.

Disclosures

Funding: Nil **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** IRB Stanford University,Ca **Helsinki:** Yes **Informed Consent:** No