

517

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TREATMENT OF STRESS URINARY INCONTINENCE USING “MACROPLASTIQUE IMPLANTATION SYSTEM”

Synopsis of Video

This video tape shows how the macroplastique is injected utilizing the Macroplastique Implantation System.

Methods

Female patients with urinary incontinence complain and urodynamic diagnostic of stress urinary incontinence due to intrinsic sphincter deficiency were treated with periurethral injection of Macroplastique under local anesthesia. The patient is placed in lithotomy position under topic anesthesia, the “Macroplastique Implantation Device” – MID is inserted into the urethra and the ideal placement for implantation is determined by identifying the bladder neck and withdrawing the MID 1 cm. Through MID’s channels, local anesthesia is injected using a special needle. Silicone is a viscous material and, therefore, needs a special ratchet gun for injection. After angling the tip of the device towards each injection side to aid penetration of the urethral mucosa, silicone is implanted. Two and half ml of silicone is injected at the 6 o'clock position and 1.25 ml at both the 2 and 10 o'clock position. Silicone elastomer is a co-polymer of polymerised and vulcanised particles of a polydimethylsiloxane compound suspended in an hydrogel carrier. The particle size varies from 100 to 600 µm (average 150µm). There is no particles lesser than 60 µm, minimizing risks of migration to distant organs. Animal studies have indicated that this inert resin heals with minimal inflammation, it is non-migratory, non-carcinogenic, and remains in the site of the injection for at least 9 months.

Results

The median volume injected was 5 ml. The most common adverse effect was transient dysuria and pain at the implantation site. There was acute urinary retention in 10% of the patients who were treated by catheterization for no longer than 24 hours. Endoscopic injection of silicone elastomers have been used for the treatment of stress urinary incontinence with cure/improvement rates, ranging from 74 to 90% (early follow up) and 48 to 59% at late follow up.

Conclusions

MID was specially developed to be easily handled, in order to make the injection procedure quick and to control accurately the placement of the bulking agent at predefined sites and depth in the female urethra. When properly handled, MID creates an axial encircled silicone bolus around the urethra. The Macroplastique Implantation System is a safe and easy procedure and requires a learning curve of approximately 2 procedures. This technique avoids problems associated with endoscopic techniques which require a long learning curve. The Macroplastique Implantation System is well tolerated and easy to perform. It seems to be a good therapeutic choice for selected cases of ISD.