

MACROPLASTIQUE® INJECTION AS A BULKING AGENT TO TREAT MITROFANOFF CHANNEL LEAKAGE

Hypothesis / aims of study

To determine the efficacy of cystoscopic injection of Polydimethylsiloxane (Macroplastique®) in the treatment of leakage from a Mitrofanoff channel.

Study design, materials and methods

From 2000 to 2004, we injected Macroplastique® in the walls of leaking Mitrofanoff channel in 14 women at a tertiary referral centre. A single surgeon performed all the 21 implantations. All women were confirmed to have a stable bladder with a mean capacity of 370 mls. (range 240–630) on pre-operative video-urodynamics. An analysis of subjective improvement in the leakage was done at the six-weekly follow-up, based upon reduction in usage of pads or other urinary collection devices. Patients who did not show any improvement or showed only partial improvement in leakage were re-injected with Macroplastique®. A similar follow up protocol was continued for these patients. 12 patients had a neuropathic bladder while 2 had overactive bladders. All patients with neuropathic bladders had augmentation ileo-cystoplasty at the same time as formation of a Mitrofanoff channel. To construct the Mitrofanoff channel, the double Monti technique was used in 9 patients while 5 patients had their appendix used for this purpose.

Results

The mean age was 45 years (range 26-60), with a mean follow up of 11 months (range 2 -29 months). The mean volume of Macroplastique® injected was 2.78 mls. (range 0.5 mls. to 5 mls). 4 patients required multiple implantations with a mean volume of 2.68 mls. Leakage stopped completely in 4/14 pts who all required only one injection of Macroplastique. Leakage improved partially in a further 3 patients, all of whom did not wish to continue with further treatment. 7 patients have had no improvement after an average of 2 injections (range 1-4). 2 of them have chosen to have an ileal conduit as a urinary diversion method while 3 have had revision of their Mitrofanoff conduit.

Interpretation of results

Cystoscopic implantation of Macroplastique was successful in rendering the patient completely dry only in a minority of patients (4/14, 28.5%). A further 3 patient reported the leakage from their Mitrofanoff channel to be reduced. They preferred to continue with the residual leakage and did not want to undergo repeat implantation. Half the patients found no benefit at all from the procedure despite a majority of them undergoing multiple implantations. We accept that in this study, the analysis is subjective and the numbers treated are small but this is the first such outcome report.

Concluding message

Minimally invasive ways of dealing with leakage via Mitrofanoff channel are limited. At the present time, cystoscopic implantation of Macroplastique as a bulking agent may not be the ideal way to manage leaky Mitrofanoff channels.