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## LONG-TERM FOLLOW-UP OF ENDOSCOPIC TREATMENT OF VESICoureTERAL REFLUX WITH THE SUB-URETERIC INJECTION OF CALCIUM HYDROXYAPATITE IN SPINAL CORD INJURED PATIENTS

### Hypothesis / aims of study

To evaluate the long-term efficiency of the subureteric injection of calcium hydroxyapatite in the endoscopic management of spinal cord injured patients with vesicoureteral reflux (VUR).

### Study design, materials and methods

A retrospective review of sub-ureteric injections of hydroxyapatite which was given, between 2001-2002 in a single neurourology institution, to 10 spinal cord injured patients (14 ureteral units) affected by VUR grades I–IV. According to “International Reflux Classification”; grade I in 4 (28.5%), grade II in 3 (21.5%), grade III in 5 (35.8%) and grade IV in 2 (14.2%) ureteral units were found. Video-cystometrogram (VCMG) and a renal ultrasound were performed preoperatively at 3 months and then on an annual base.

### Results Interpretation of results

All patients with VUR grade I were treated with a single injection with no further reflux on VCMG. 2/3 Grade II VUR patients achieved success in the abolition of reflux with one injection. The third patient required repeated coapitite injections. Patients with grade III required two to three injections to down-grade the reflux level to Grade II and I and a complete success was achieved in 2/5. Whereas, Coapitite was not successful in patients with Grade IV reflux and therefore, they underwent further surgical interventions.

### Concluding message

There are favourable outcomes for low grade VUR with the sub-ureteric injection of calcium hydroxyapatite in SCI patients without any side effects. High grade VUR with such treatment showed a low success rate. There was no reported morbidity.

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<b>Is this a clinical trial?</b>	<b>No</b>
<b>What were the subjects in the study?</b>	<b>HUMAN</b>
<b>Was this study approved by an ethics committee?</b>	<b>No</b>
<b>This study did not require ethics committee approval because</b>	<b>No need. Retrospective study without using the patients names.</b>
<b>Was the Declaration of Helsinki followed?</b>	<b>No</b>
<b>This study did not follow the Declaration of Helsinki in the sense that</b>	<b>No Need.</b>
<b>Was informed consent obtained from the patients?</b>	<b>Yes</b>