

ADJUVANT INTRAVESICAL DIMETHYLSULFOXIDE INSTILLATIONS AFTER HYDRODISTENTION AND HOLMIUMLASERING IN THE TREATMENT OF INTERSTITIAL CYSTITIS.

Hypothesis / aims of study

Interstitial cystitis is an idiopathic illness of the bladder characterized by increased urinary frequency, urgency, nocturia and chronic pelvic pain¹. Diagnosis is routinely based on history, cystoscopy, potassium test and biopsy.

To date, intravesical instillation of dimethylsulfoxide (DMSO) is together with oral pentosan polysulfate the only therapy that has been approved by the US Food and Drugs Association (FDA). In the Interstitial Cystitis Data Base Study², 183 different types of treatment have been recorded, but none of them proved superior.

In another small prospective study, Yag-lasering of all visible lesions in interstitial cystitis patients resistant to medical therapy resulted in a decrease in symptoms³.

The aim of this study was to determine whether patients that underwent hydrodistention and holmiumlasering of all visible lesions benefited from intravesical instillations with DMSO according to the FDA scheme. Primary endpoint was a reduction in interval between two distensions with lasering between both groups.

Study design, materials and methods

We conducted a retrospective review of patients that were, based on their history, suspected for interstitial cystitis in our service between December 2003 and February 2007. All of these patients underwent cystoscopy under general anaesthesia and hydrodistention at 80cmH₂O. Biopsies were taken for pathological confirmation. If cystoscopic signs of interstitial cystitis were present, all lesions were lasered with the holmium laser. All patients underwent regular follow-up at the outpatient clinic, when symptoms recurred a new procedure was proposed. Randomly a group of 13 patients received adjuvant intravesical DMSO from September 2004 on.

Results

46 patients underwent a diagnostic hydrodistention at 80 cmH₂O under general anaesthesia.

32 patients revealed signs of interstitial cystitis on relook cystoscopy after hydrodistention and biopsy (glomerulations, Hunner's ulcer, petechiae, diffuse bleeding). 14 patients were not suspect for interstitial cystitis on cystoscopy and negative on biopsy (30.4%). No major complications were recorded.

Overall bladder capacity ranged from 75-1000ml (mean 414ml), mean number of procedures was 1.9 (range 1-5).

The mean time between two procedures in the group that underwent hydrodistention and holmiumlasering was 533 days (range 17-1184) and 47.3% underwent at least two procedures. Three patients finally underwent cystectomy, one patient was implanted with a sacral nerve stimulator.

In the group that received adjuvant DMSO instillations only one patient received a second procedure after 266 days (7%). Two other patients stopped the treatment after the initial six induction instillations because of the garlic-like odour DMSO instillations cause. Mean follow-up in this group was 367 days (range 81-512). The mean number of instillations was 12 (6-25). None of these patients received another therapy.

Interpretation of results

70% of patients that were clinically suspected for interstitial cystitis were diagnosed with the disease. Hydrodistention and holmiumlasering of all lesions appears to be a safe and minimally invasive treatment for interstitial cystitis. Though not scored in this retrospective review, all patients subjectively benefited from this procedure. 53% of the treated patients did not need re-intervention to date. Adjuvant DMSO instillations tends to reduce the number of re-interventions needed, but since only 7% (1 patient) underwent a second procedure no significant conclusions can be made based on this small study.

Concluding message:

Hydrodistention and holmiumlasering of all lesions in patients with interstitial cystitis appears to be a safe and effective treatment. Adjuvant DMSO instillations adds an extra benefit (7% reintervention rate versus 47%), but longer follow-up is needed to determine its exact value.

However, given the nature of DMSO (garlic like odour), a placebo controlled blinded study might be fairly impossible.

References

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HUMAN SUBJECTS: This study was approved by the UZ and followed the Declaration of Helsinki
Informed consent was obtained from the patients.