

# Bladder Wall Thermo-chemotherapy (BWT) Instillations for Non-Muscle Invasive Bladder Cancer (NMIBC)

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## Objectives

To evaluate the safety and long term and efficacy of BWT (Elmedical, Israel), a CE approved thermo-chemotherapy with MMC to treat NMIBC.

## Materials & methods

Between March 2007 to October 2010, 31 NMIBC patients (24 males; 7 females; age 58-86 years, median 77) were treated with BWT and followed-up endoscopically every 3 months for 64-107 months (median 87).

Baseline disease free interval (DFI in months) ranged between 3 to 16 months (median 5).

There were 2-16 recurrences at baseline (median 5).

All 31 patients failed previous intravesical BCG instillations, 10 also failed MMC, 6 also failed microwave chemo-hyperthermia (Synergo<sup>®</sup>).

10/31 patients were high-risk (7-T1; 4-High grade; 3-CIS) and 21/31 intermediate-risk. 18/31 had multifocal disease.

Each patient received 6 weekly induction instillations followed by 6 monthly maintenance instillations. In each procedure 40mg MMC dissolved in 50ml saline. The carefully heated MMC solution circulated continuously through the bladder for 50 minutes providing uniform 44.5°C +/- 0.5°C over the entire bladder lumen.

## Results

Extension of DFI was calculated for each patient by dividing his post BWT DFI by his baseline DFI.

Overall 30/31 patients benefitted from BWT with median 7X extended DFI (range 2X-23X):

- 16/31 patients had no recurrence; of them, 7/16 died unrelated to bladder cancer and were disease-free at death; in this sub-group, BWT resulted in median 10X extended DFI (range 2X-23X).

- 15/31 patients recurred; in this sub-group, 14/15 patients benefitted from BWT with median 4X extended DFI (range 2X-12X).

No disease-progression, urethral strictures or thermal-effects (burns) were observed.

Patient's tolerance was good with some urgency toward the end of the procedure, which significantly improved with fluids intake restriction before procedure.

Post-procedure dysuria lasting 1-2 days occurred in about 50% of the patients.

Two patients had short allergic reaction to MMC, which resolved spontaneously.

## Conclusions

BWT is safe and effective treatment with good patient's tolerance and minimal adverse events.

97% of patients benefitted from the BWT with median 7X extended DFI compared to each patient's baseline.