The role of conductive hyperthermia with mitomycin in High Risk Non Muscle Invasive Bladder Cancer that has failed BCG therapy

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Introduction:
• The standard management of high risk non muscle invasive bladder cancer (HR NMIBC) is BCG intravesical therapy with radical cystectomy (RC) reserved for BCG ‘failures’.
• However there remains a significant group of patients who are unfit for or unwilling to undergo RC. Until recently therapeutic options in such patients were limited and included re-exposure to further BCG or endoscopic management.

Aims:
• We report our experience of the use of conductive hyperthermia in the management of patients with HR NMIBC who have are unfit for or have refused RC

Methods:

Patients with BCG ‘failure’ + deemed unfit/ unwilling to undergo RC

Referral to tertiary bladder cancer centre Dec ‘14- Feb ’16 (26 patients)

Induction therapy- 6 week course of weekly hyperthermic mitomycin (HT-MMC) using a conductive heating system heated to 43 degrees centigrade for 1 hour.

Induction not tolerated

Induction tolerated and disease free (60%)

Maintenance HT-MMC at 3 monthly intervals (1 year)

Results:
• 1/3 of patients had CIS. 18 patients were BCG relapsed, 4 patients were BCG intolerant and 4 patients were referred during the BCG shortage.
• The mean treatment length was 55 minutes and the mean number of HT-MMC treatments was 5.2.
• In the BCG relapse group of 18 patients, with a median follow up of 19 months, 3 patients had been lost to f/up and one patient had died of unknown causes. 12 patients remained recurrence free giving an overall response rate of 66%.
• In the BCG intolerant group of 4 patients with a median follow up of 26 months, 3 patients remained recurrence free giving an overall response rate of 75%.
• In the BCG shortage group of 4 patients with a median follow up of 19 months, 3 patients remained recurrence free giving an overall response rate of 75%.

Conclusions:
Conductive hyperthermia with MMC seems an effective option in patients who have are intolerant to or relapsed on BCG therapy who are unfit or unwilling to undergo RC. Randomised trials are required to evaluate this promising option further.