

Long-term results of organ preservation rate and progression risk in high-risk non-muscle-invasive bladder cancer (NMIBC) patients treated with radiofrequency-induced thermochemotherapy effect (RITE) with the Synergo system.

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Background: High risk NMIBC is a dangerous BC with a challenging treatment by BCG or early cystectomy to cure. The first has bad treatment tolerance and a remission of about 35%, whereas the last offer a curing perspective of 84% with extremely bad living conditions. RITE checked prospectively the therapy in respect to organ preservation, curing rate and risk of progression over 10 years in a single institution experience.

Methods: All patients were EORTC high risk NMIBC. Treatment with induction phase: 8 treatments weekly with 2x40 mg Mitomycin C, 42°C intravesically induced by RITE. Followed by a re-resection of the bladder at week 11 to ensure complete remission and maintenance with treatments every 6 weeks with 2x20 mg Mitomycin C for 6 times. Cystoscopy controls were performed first 2 years every 3 month and following in 6 month until now. Study started in 2006 ongoing until today.

Results: We enrolled 67 patients (4 female, 63 male), 65.7% Cis positive rate. 85% of the patients were treated alternatively to BCG with primary RITE whereas 15% were BCG failure patients treated alternatively to indicated cystectomy. Tumor persistence at week 11 after induction therapy proven by TURB was (10/67) 14.9% resulting in early cystectomy (4/10). Mean recurrence free time 3.5 years. In case of recurrence 10.4% progressed to MIBC including 6% metastatic tumors, high risk NMIBC was observed in 6% resulting in cystectomy and low risk NMIBC recurrence was 1.5% with organ preservation. BC death rate was 1 out of 67. Incomplete treatments induced by SAE of RITE was 9%. Bladder preservation rate was 80.6% with a long-lasting effectiveness (> 5 years) of 14/26 (53.8%).

Conclusions: The RITE method is in short- and long-term manner a powerful procedure to cure and maintain a recurrence free BC status in high risk NMIBC with a very low risk for cystectomy and a minimal risk for systemic progression resulting in BC death. The organ preservation rate was achieved in 80.6% lasting for up to 11 years longest. RITE is an alternative to BCG and preferable to early cystectomy in high risk NMIBC.

