

Non-muscle invasive bladder cancer: Safety of postoperative EMDA-assisted instillation of mitomycin - Abstract

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BACKGROUND: The immediate instillation of mitomycin after transurethral resection of bladder tumor (TURBT) is widely used and recommended in the guidelines.

Recently it was shown that pre-TURBT intravesical electromotive drug administration (EMDA) of mitomycin reduces the recurrence rate of non-muscle invasive bladder cancer. Our aim was to describe the pharmacokinetics and patient safety after post-TURBT EMDA.

METHODS: We performed a single centre study with 25 patients diagnosed with non-muscle invasive bladder cancer. All patients underwent complete resection of all visible tumors and post-TURBT intravesical electromotive drug administration (EMDA) of mitomycin (40 mg) for 30 min. Blood samples were taken before starting the electrical current and 15, 30, 60, and 120 min after starting the procedure for quantification of mitomycin serum levels.

RESULTS: In 24 patients, the measured serum level of mitomycin was below the detection threshold of 50 ng/ml. In one patient serum level was elevated 15 min (155 ng/ml) and 30 min (65 ng/ml) after intravesical instillation. Nine patients reported a slight tingling sensation in the bladder during mitomycin administration. Discreet pressure in the suprapubic area was reported by one patient. One patient had a first degree skin burn at the site of one skin electrode.

CONCLUSION: Postoperative EMDA with mitomycin is a safe procedure. The measured mitomycin serum levels were below toxic concentrations. These findings encourage the initiation of large randomized controlled trials with postoperative EMDA-assisted instillation of mitomycin to test its influence on the recurrence rate of non-muscle invasive bladder cancer.