

MITOMYCIN C ADVERSE REACTION AFTER INTRAVESICAL INSTILLATION

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Introduction: Mitomycin C (M) is an antibiotic isolated from the broth of *Streptomyces caespitosus*, which has been shown to have antitumor activity due to the selective inhibition of the DNA synthesis. It is usually administered intravenously as antineoplastic for several kind of cancer. It is also administrated by intravesical instillation as adjuvant therapy after transurethral resection of bladder tumors (TURBT) at the dose of 20-40 mg in 40-50 ml of saline or sterile water in 1 hour. Its use is recommended as single instillation after TURBT in tumors at low risk of recurrence and progression, or in repeated instillations in intermediate and high-risk patients. In addition to the typical adverse effects of alkylating drugs (e.g. myelosuppression and gastrointestinal symptoms), neurological immediate adverse effects have been reported after mitomycin intravenous administration: headache, blurring of vision, confusion, somnolence, drowsiness, syncope and fatigue. We describe a case of neurological symptoms after mitomycin intravesical instillation.

Case report: A 53years old man with a bladder tumor staged as T2, was subjected to the third instillation of mitomycin after TURBT. During mitomycin administration, the patient manifested a syncopal episode without total loss of consciousness; furthermore, he reported retro-orbital pain and unilateral blurred vision. The brain and eyes CT-scan immediately performed resulted negative. The patient had no bladder perforation, the symptomatology regressed in approximately 30 minutes, and he was discharged after a few hours. Discussion and conclusion. After intravenous administration, M is rapidly cleared from the blood: time required to halve serum concentration after a 30 mg bolus injection is 17minutes. Metabolism is primarily in the liver, but also in other tissues as well. Systemic absorption of mitomycin after bladder instillation is demonstrated, it is significantly correlate with the extent of bladder resection, with a plasma concentration ranging from 5.64ng/ml to 49.25ng/ml: the peak of plasma concentration is reached within the first 40-60 minutes. Reported adverse effect have occurred in 35% of patients after intravesical instillation, and this hold nausea, fatigue and dysuria, but neurological effects are not mentioned in any study. Thus, this case shows how a systemic absorption of mitomycin instilled into the bladder may cause also neurological systemic effects.