Introduction: According to current evidence, BCG is perceived as less tolerable than intravesical chemotherapy. Both these treatment options can be used as adjuvant treatment in intermediate-risk NMIBC. This is the first study to prospectively evaluate and compare the quality of life (QoL) of intermediate-risk NMIBC patients treated with chemotherapy or BCG. Gemcitabine, a promising intravesical agent for its efficacy and tolerability, was employed in the chemotherapy arm.

Materials and methods: We enrolled 120 intermediate-risk NMIBC patients. 61 were randomized to receive GEM 2000 mg/50 cc weekly for 6 weeks (maintenance monthly for one year), while 59 BCG Connaught 1/3 dose weekly for 6 weeks (maintenance 3 weekly instillations at 3, 6 and 12
months). QoL was measured by EORTC QLQ-C30 and BLS-24 questionnaires at the following time intervals (T0 baseline, T1 after completion of induction cycle, T2 after 1 year). Adverse events were graded according to the CTCAE version 3.0.

**Results:** 88 patients completed the study (47 in BCG-arm and 41 in the GEM-arm). Mean age was 67.4 years. At T1, the GEM-group showed a significant better QoL in cognitive (p 0.01) and emotional (p 0.03) functioning with moderate effect sizes as well as better QoL in urinary symptom distress (p 0.03) and intravesical treatment problems (p 0.01). At T2, the GEM-group showed a significant better QoL in cognitive functioning (p 0.01) with a moderate effect size as well as less symptom distress regarding nausea and vomiting (p 0.001) with a large effect size. No significant differences were recorded in the Global Health Status. Multivariate analyses showed no significant differences between the BCG and GEM group in all QoL dimensions (EORTC-QLQ-C30) including bladder cancer-specific quality of life. Treatment was well-tolerated in both groups, with a higher incidence of adverse events in the BCG-arm.

**Discussion:** Intravesical instillations caused a worsening of patients’ QoL, irrespectively of the drug used. Gemcitabine showed a significant better tolerability profile than BCG in few specific items on univariate analysis not clearly attributable to intravesical therapy. Notably these differences were lost on multivariate analysis.

**Conclusions:** Intravesical instillations caused a worsening of patients’ QoL, irrespectively of the drug used. Notably these differences were lost on multivariate analysis.