Aim/Background: Neoadjuvant chemotherapy (NAC) with methotrexate (MTX), doxorubicin (DXR), vinblastine (VBL) and cisplatin (CDDP) (MVAC) for patients with muscle-invasive bladder cancer demonstrates survival benefits. Common causes for dose adjustments of MVAC are leukopenia, thrombocytopenia, and mucositis, and most adjustments occur on day 15 for MTX and VBL. We investigated the tolerability and efficacy of cases medicated by neoadjuvant modified three-weekly MVAC (m-MVAC) which omit the treatment on day 22.

Methods: We analyzed twenty-five patients with locally advanced bladder cancer (UICC 2009 clinical stage T1-4N0-3M0) medicated by neoadjuvant m-MVAC (MTX 30mg/m² on day 1; VBL 3mg/m², DXR 30mg/m² and CDDP 70mg/m² on days 2) between May 2007 and February 2014. We looked at efficacy, grade of adverse events (CTCAE ver4.0), relative dose intensity (RDI) and surgery implementation rates for neoadjuvant m-MVAC.

Results: The median age was 62 (37 to 77), and the number of male patients was 24. The median duration and range of follow-up were 1580 and 242-2868 days. Numbers of patients for each clinical stages were 1 (4%), 12 (48%), 1 (4%) and 11 (44%) in stage 1, 2, 3 and 4, respectively. Numbers of patients who received of neoadjuvant m-MVAC for each courses were 1 (4%), 18 (72%), 2 (8%) and 4 (16%) in received 1, 2, 3 and 4 courses, respectively. The RDI was 0.95 in total cases, and RDIs for each courses were 1.00, 0.98, 0.83 and 0.86 for 1, 2, 3 and 4 courses. The surgery implementation rate was 100%. As grade 3 to 4 adverse events, neutropenia occurred in 4 patients (16%), and febrile neutropenia, anemia and hiccup occurred in 1 patient (4%). Three patients (12%) received G-CSF at least once and 2 patients (8%) had emergency hospitalizations due to fever and hematuria. In total cases, 3-year overall (OS) and recurrence-free survival (RFS) rates were 0.79 (95% CI: 0.56-0.91) and 0.75 (95% CI: 0.52-0.88), respectively. In clinical stage 2 or 3 patients, 3-year OS and RFS were 0.84 (95% CI: 0.49-0.96).

Conclusions: Our study supports the tolerability and efficacy of neoadjuvant three-weekly m-MVAC for the patients with locally advanced bladder cancer.

Disclosure: All authors have declared no conflicts of interest.