

## **Outcomes of Patients with Clinical Lymph Node-Positive Bladder Cancer after Neoadjuvant Chemotherapy, Radical Cystectomy, and Lymph Node Dissection**

**Introduction and Objective:** To analyze outcomes in patients with clinical lymph node-positive (cN-positive) bladder cancer after neoadjuvant chemotherapy (NC), radical cystectomy (RC), and lymph node dissection (LND).

**Materials and Methods:** From July 2001 to November 2010, we performed 724 RCs for bladder cancer. During this period, we treated 33 of these 724 patients (4.5%), who were found to be cN-positive, with NC followed by RC and LND, including 6 cN1 cases, 5 cN2 cases, and 22 cN3 cases. The patients received a median of 4 cycles of cisplatin and gemcitabine ( $n = 27$ ), carboplatin and gemcitabine ( $n = 5$ ), or other ( $n = 1$ ) treatment. Fifteen of the 33 patients were histologically proven to be cN-positive by biopsy (core needle or fine needle aspiration biopsy). In 18 patients, who did not have histologic confirmation, 11 had more than 2cm in diameter LN swelling, and 7 patients include 3 cN2 cases and 4 cN3 cases. We retrospectively analyzed all 33 patients for disease-specific survival (DSS) and complete pathologic remission (pT0, pN0). Variables were tested in univariate and multivariate analyses for associations with DSS.

**Results:** Fifteen of 33 patients died due to bladder cancer progression. One patient died of pulmonary embolization 4 months after RC. The median duration of follow-up in the 18 survivors was 38 months (12–113 months). pT0 was observed in 12 of 33 patients (35%); pN0 was observed in 15 of 33 patients (44%). Seven of 15 patients (46%) who were confirmed to be cN-positive by needle biopsy showed pN0 status. Both the pT0–2 and pN0 group of patients showed significantly better DSS ( $p = 0.001$  and  $p = 0.003$ , respectively). In multivariate analysis, pN stage was the strongest predictive factor for DSS (hazard ratio 2.3, 95% confidence interval 1.19–4.78).

**Conclusion:** NC was effective for patients with both primary bladder tumor and lymph node metastases. Even in cN-positive conditions, patients who achieved pathologic down-staging after NC showed good outcomes thorough RC and LND.