Rechallenge with oxaliplatin and peripheral neuropathy in colorectal cancer patients

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Introduction: Oxaliplatin (OXA) is a cornerstone in the treatment of colorectal cancer (CRC). Retreatment with OXA is frequently considered as salvage treatment. OXA-induced neuropathy (OIN) is the most frequent and feared long-term side-effect.

Methods: CRC patients receiving at least twice OXA-based chemotherapy lines at our institution between June 2000 and July 2016 were reviewed. The aim of this study was to investigate whether retreatment with OXA increases the risk of developing new or worsening previous neuropathy. OIN was assessed by National Cancer Institute-Common Toxicity Criteria for Adverse Events (NCI), Total Neuropathy Score (TNS) and nerve conduction studies.

Results: 106 patients were included in the analysis. Median age at OXA-based retreatment was 61.5 [20-85] years. After the first OXA-based chemotherapy treatment, 60.3% of patients developed OIN, 29.2% and 8.4% grade 2 and grade 3, respectively after a median of 11 [1-17] cycles. After 30 [11-90] months of median to retreatment with a median of 8 [1-14] OXA cycles, 39.6%, 22.6% and 0% of patients developed grade 1, 2 and 3 OIN, respectively. Worsening of previous OIN was observed in one third (31.1%) of all patients. OXA cumulative dose was independently associated with greater risk of worsening OIN (p < 0.001). Non-significant trend towards higher TNS© scores after retreatment were observed (5 [0-11] vs 6 [3-13], p = 0.083).

Conclusion: Retreatment with OXA in CRC patients is a feasible option even in patients who previously developed moderate or severe OIN. One third of patients experienced a worsening of their previous OIN. Neurological monitoring of patient candidates to retreatment with OXA should be considered.