

## A preliminary audit experience of surgery for rectal cancer after neoadjuvant chemoradiation therapy

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### ABSTRACT

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**Aims and background.** A surgical audit is a systematic critical analysis of surgical performance, with the goal to improve the quality of patient care. Rectal cancer surgery is one of the most delicate procedures in the field of surgical oncology, with significant variations in terms of complications from center to center. Neoadjuvant chemoradiation therapy leads to a significant reduction in local recurrences in patients with locally advanced lower and medium rectal cancer. The aim of the study was to evaluate the influence of neoadjuvant chemoradiation therapy on postoperative morbidity and mortality in patients with rectal cancer.

**Methods and study design.** From January 1, 2003, to December 31, 2007, patients who underwent elective surgical resection for lower and medium rectal cancer in our Surgical Unit were prospectively analyzed. Patients (n = 42) were divided into two groups: 1) those treated with neoadjuvant chemotherapy and consequent surgical resection (19/42); 2) those treated with primary surgical treatment (23/42). P-POSSUM (Portsmouth Physiologic and Operative Severity Score for the Enumeration of Mortality and Morbidity) and CR-POSSUM (ColoRectal-POSSUM) scores were calculated for each patient group. Thirty-day mortality and morbidity rates were prospectively collected in a comprehensive data base. Data were evaluated by comparing the predictions of the two scoring systems in both study groups with clinically observed mortality and morbidity rates.

**Results.** In group 1, no death was registered (0/19). The P-POSSUM and CR-POSSUM expected mortality was 2.43% and 4.52%, respectively ( $P > 0.05$ ). In group 2, a single death was documented (1/23, 4.35%). The P-POSSUM and CR-POSSUM expected mortality was 2.1% and 4.94%, respectively. The postoperative complications rate for group 1 was 10.52% (2/19) compared to 34.88% as expected from the P-POSSUM score ( $P < 0.05$ ). In group 2, a postoperative complication rate of 39.13% (9/23) was observed compared to 34.26% as expected from the P-POSSUM score ( $P > 0.05$ ).

**Conclusions.** No significant influence on morbidity or mortality was detected in patients who underwent neoadjuvant radio-chemotherapy. **Free full text available at [www.tumorionline.it](http://www.tumorionline.it)**

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**Key words:** clinical audit, colorectal surgery, neoadjuvant chemoradiation therapy, rectal cancer.

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Received May 19, 2009; accepted October 16, 2009.