

## Role of Total Neoadjuvant Therapy in Sphincter Preservation in Locally Advanced Rectal Cancer: A Case Series

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**Abstract :** Purpose: We have evaluated the role of Total Neoadjuvant Therapy in patients with Locally Advanced Rectal cancer by giving Chemoradiotherapy followed by consolidation chemotherapy (CRT-CNCT) and, after that, the strategy of wait and watch. Methods: In this prospective case series, we evaluated the results of three locally advanced Rectal cancers, two cases Stage II (cT3N0) and one case Stage III (cT4aN2). All three patients' growth was 4-6 cm from the anal verge. We have treated with Chemoradiotherapy to dose of 45Gy/25 Fractions to elective nodal regions (Inguinal node in anal canal Involvement) and Primary and mesorectum (Phase I) followed by 14.4Gy/8 Fractions to Primary and Mesorectum(Phase II) to a total dose of 59.4Gy/33 Fractions with concurrent chemotherapy Tab Capecitabine 825mg/m<sup>2</sup> PO BD with Radiation therapy. After 6 weeks of completion of Chemoradiotherapy, advised six cycles of consolidative chemotherapy, CAPEOX regimen, Oxaliplatin 130mg/m<sup>2</sup> on day 1 and Capecitabine 1000mg/m<sup>2</sup> PO BD on days 1-14 repeated on a 21-day cycle for a total of six cycles. The primary endpoint is Disease-free survival (DFS); the secondary endpoint is adverse events related to chemoradiotherapy. Radiation toxicity is assessed by RTOG criteria, and chemotherapy toxicity is assessed by Common Terminology Criteria for Adverse Events (CTCAE) Version 5.0. Results: After 6 weeks of completion of Chemoradiotherapy, we did PET-CT of all three patients; all three patients had a clinically complete response and we advised 6 cycles of consolidative chemotherapy. After completion of consolidative chemotherapy, again PET-CT and sigmoidoscopy, all three patients had complete response on PET-CT and no lesions on sigmoidoscopy and kept all three patients on wait and watch. 2 patients had Grade 2 skin toxicities, 1 patient had Grade 1 skin toxicity, 2 patients had Grade 2 lower GI toxicities, and 1 patient had Grade lower GI toxicity, both according to RTOG criteria. 3 patients had Grade 2 diarrhea due to capecitabine, and 1 patient had Grade 1 thrombocytopenia due to oxaliplatin assessed by Common Terminology Criteria for Adverse Events (CTCAE) Version 5.0. Conclusion: Sphincter Preservation is possible with this regimen in those who don't want to opt for surgery or in case of low-lying rectal cancer.

**Keywords :** locally advanced rectal cancer, sphincter preservation, chemoradiotherapy, consolidative chemotherapy

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