Preoperative Versus Postoperative Chemotherapy in Rectal Cancer: Ramathibodi Experience

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Background: This study was to examine clinical outcomes in patients receiving preoperative chemoradiotherapy compared with postoperative chemoradiotherapy (CRT) for locally-advanced rectal cancer at Ramathibodi Hospital.

Method: We performed a retrospective study in Ramathibodi hospital from Jan 1, 2007 to Dec 31, 2012. 80 patients with locally advanced rectal cancer (stage II T3-4 and stage III) were eligible in our study and classified to preoperative and postoperative chemoradiotherapy group. The primary end point was disease free survival (DFS) and secondary endpoints were response, pCR, sphincter sparing surgery, local recurrent rate and toxicities.

Results: 41 patients had preoperative CRT and 39 patients had postoperative CRT. The tumor was located 10 cm or less from anal verge in 37 patients (90.3%) in preoperative CRT and 26 patients (66.2%) in postoperative CRT. Sphincter sparing surgery was performed 51.2% vs. 69.2% ($P=0.034$) in the preoperative and postoperative CRT respectively. Toxicities and 3-year DFS were similar in both groups. In preoperative CRT group, 14.6% a chieved pCR and 22% achieved complete nodal response. Patients who had tumor response(CR and PR) has improved 3-year DFS compared to non-responders, (100% vs. 80.8%, $P=0.014$). There were not significantly different outcomes between 5FU-base and oxaliplatin-base regimen including response, pCR, local recurrent rate and toxicities. Except, rate of sphincter sparing surgery was significantly higher in patients received oxaliplatin-base regimen.

Conclusion: There were not significantly different outcomes between preoperative and postoperative CRT in locally advanced rectal cancer. In preoperative CRT group, 14.6% achieved complete pathologic response. But the rate of sphincter sparing surgery was higher in postoperative CRT; however it was bias by location of tumor.