

# Total Neoadjuvant Therapy in Comparison with Conventional Treatment in the Management of Rectal Adenocarcinoma: A Systematic Review and Meta-analysis

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**Aim:** This systematic review and meta-analysis aimed to compare total neoadjuvant therapy vs conventional treatment in the management of rectal adenocarcinoma.

**Methods:** Seventeen high quality Randomization Clinical Trial studies with 8019 individual data, were entered in meta-analysis study, which reported 3 year DFS and/or OS in rectal adenocarcinoma patients. Pooled estimates of 3 year DFS and OS for various approach of treatment were obtained by calculating the weighted percent from studies.

**Results:** The pooled estimates of DFS and OS rate during of 36 month follow up was 0.69 (0.95 CI 0.68, 0.70) and 0.83(0.95 CI 0.83, 0.85) to 6 type treatment approach in rectal adenocarcinoma patients. Subgroup analysis shows higher and lower overall DFS rate was

0.73 (0.95 CI 0.65, 0.79) for two approach (CT-CRT-S and CRT-CT-S) and 0.645 (0.95 CI 0.59, 0.70) (RT-CT-S). also higher and lower 3 year OS rate were 0.92 (0.95 CI 0.86, 0.95) in CRT-CT-S and 0.80 (0.95 CI 0.78, 0.83) in CRT-S approach ( $p < 0.05$ ).

**Discussion:** PCR and sphincter preservation are the most frequently reported outcome benefits of TNT in various trials. However, due to the heterogeneous patient populations in each study, which include high-risk features and differing treatment schedules, the survival advantage is not universally applicable. Therefore, the decision to use TNT should be tailored to the individual patient and made within a multidisciplinary framework. Despite this uncertainty, the use of TNT in rectal cancer continues to be explored as a means of enhancing patient outcomes and improving quality of life.

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## References