OPTIMAL TIMING FOR SURGERY FOLLOWING NEOADJUVANT CHEMORADIATION IN PATIENTS WITH RECTAL CANCER

Abdul Waheed, MD; Wazir Akbar, MBBS, FCPS; Sh A Hai, MD, FACS; Friedrick D Cason, MD, FACS; Michael H Albrink, MD, FACS; Veronica Tucci, MD; Noor Nama, MBBS; Kai Huang, MD; Ji Fan, MD; Asad Ullah, MD; Subhasis Misra, MD, FACS

Introduction

- While surgery remains the gold standard for treating rectal cancer, neoadjuvant fluoropyridine-based chemoradiation has been recommended by the National Institute of Health.
- However, the optimal timing of neoadjuvant chemotherapy and its impact on patient response rate remains controversial and limited to small cohort studies.
- This study sought to analyze neoadjuvant chemoradiation's role in incomplete patient response rates in rectal cancer patients.

Background

- The precise timing of the surgery after the neoadjuvant therapy is not well delineate.
- There is a lot of controversial data about the optimum timing which might impact patient survival.

Methods

- A comprehensive literature search of PubMed, Google Scholar, Medline, and the Cochrane Central Registry of Controlled Trials (1966-2019) was conducted.
- Keywords searched included rectal cancer, neoadjuvant chemoradiation, and surgery, and only articles written in English were included.
- The outcome analyzed was the incidence of complete patient response (pCR).

Results

- 13 studies involving 2,731 patients were included. Studies ranged from neoadjuvant chemoradiation completed 41 days before surgery to 12 weeks before surgery.
- 13 of the studies reported higher pCR rates following extended intervals between neoadjuvant chemoradiation and surgery, 5 of which were statistically significant. Results ranged from 27.1% - 34.5% for extended intervals, compared to 15.3% - 27.3% for shorter intervals between neoadjuvant chemoradiation and surgery.

Conclusion

- Prolonged interval between neoadjuvant chemoradiation and surgery is associated with significantly higher rates of pCR compared to shorter intervals. Prolonging the interval time between neoadjuvant chemoradiation and surgery may increase the chance of pCR; however, randomized control trials evaluating the impact of the prolonged interval between neoadjuvant chemoradiation and surgery on rectal cancer of various stages are required.