Aim: Although adjuvant chemotherapy (AC) has been shown to improve survival in patients with colon cancer (CC), meta-analyses have suggested decreased survival with increasing Time To AC (TTAC). We examined the predominant factors leading to delayed TTAC in routine clinical practice.

Methods: Individual medical records were reviewed for 1,608 patients with CC who initiated AC 2005-2012 at eight cancer centers in the Province of Ontario. Patient, disease, and treatment characteristics, plus time intervals between each step in the cancer care pathway from surgery to AC, were captured. Patients were then categorized into three groups for comparison: (I) inter-current illness and/or post-operative complications, (II) oncologist/patient-initiated delay, (III) no medical reason for delay. Groups were compared using chi square tests and one-way ANOVA. A multivariate logistic regression analysis (MVA) was used to determine factors associated with TTAC >8 weeks (wks) for each cohort.

Results: The proportion of patients in each group was: (I) 24.7%, (II) 19.5%, (III) 55.8%; mean TTAC was: (I) 10.1 ± 2.7, (II) 10.5 ± 3.6, (III) 8.5 ± 2.1 wks (p>0.001); the proportion of cases with TTAC>8 wks was: (I) 76.4%, (II) 81.4%, (III) 57.9%. The most common post-operative complication in Group I was ileus (34.2%). The only significant predictor of TTAC>8 wks by MVA in group I was AC via central venous catheter (OR = 2.4, 95% CI:1.2-4.9). Median length of stay in hospital after surgery was 10, 6 and 6 days for Group I, II, and III, respectively (p < 0.001). When MVA was performed on all patients, the presence of post-operative complications (OR = 2.4, 95% CI:1.6-3.8) and oncologist/patient-initiated delay (OR = 3.5, 95%CI:1.2-6.0) were the strongest predictors of delay. There was no effect on TTAC if surgery was performed in peripheral versus academic hospital (p = 0.32).

Conclusions: Although the majority of patients had no medical reason for delay, the average TTAC was > 8 wks. Our findings suggest that health-system factors such as waiting for consultations and chemotherapy booking cause the majority of delays in TTAC. These are modifiable and quality improvement initiatives should focus on how to reduce these delays.

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