176 patients with stage 3 rectal cancer that was downstaged following neoadjuvant chemoradiotherapy and total mesorectal excision were identified and included in this study. 101 patients (57%) received adjuvant chemotherapy and the remaining 75 patients (43%) did not receive adjuvant therapy. Patient demographics, tumour characteristics, and outcomes following neoadjuvant and surgical therapy are displayed in Table 1.

Patients who received adjuvant chemotherapy were younger than those who did not (median age 63 vs 70 years, p <0.001). Patients who received adjuvant chemotherapy had higher rates of circumferential resection margin involvement (88 vs 70%, p=0.007), higher rates of extramural venous invasion (72 vs 4-0%, p<0.001), and lower R0 resection rates (84 vs 95%, p=0.064). They had a higher tumour stage following radiotherapy (p=0.011; Stage 4: 1.3 vs 0%, Stage 3: 44 vs 31%, Stage 2: 42 vs 33%, Stage 1: 10 vs 33%, Stage 0: 2.6 vs 3.4%) and higher tumour stage post surgery (p<0.001; Stage 3: 32 vs 12%, Stage 2: 44 vs 25%, Stage 1: 15 vs 48%, Stage 0: 8.1 vs 15%. There was no significant difference in baseline histological grade (p=0.9), tumour regression grade (p=0.9), tumour distance from the anal verge (p=0.19), or time between radiotherapy and surgery (p=0.26).

Disease recurrence was more frequent in the patients who had received adjuvant chemotherapy (24 vs 11%, p=0.026) with a trend towards a shortened median recurrence free survival (x vs y, p = 0.05) (Figure 1). There was no difference in median overall survival between the groups (x vs y, p=0.76) (Figure 2). The table has no difference in median recurrence free survival time – 4.94 vs 4.49 – what does this represent – it doesn’t fit with the KM data presented.

Independent risk factors for survival were identified with multivariate analysis of patient demographics, tumour characteristics, and outcomes following neoadjuvant and surgical therapy (Table 2). Incomplete resection was associated with poorer survival (R1 vs R0: HR 35, p<0.001; R2 vs R0: HR 12.3, p=0.034). Are the hazard ratios for TRG 2&3 correct? Increased time between radiotherapy and surgery was also associated with poorer survival (HR 1.02, p=0.006). Of note, there was a trend towards better survival in patients who did not receive adjuvant treatment compared with those who received adjuvant chemotherapy (HR 0.28, p=0.09). None of the variables studied were associated with risk of recurrence. (Were any of the variables significant in univariate but not multivariate analysis?)