doses to the right coronary artery (0.4-3.5Gy). Analyses of cardiac doses for the 10 randomly selected CT scans showed considerable inter-patient dose variation for left tangential radiotherapy but less variability for left direct beams.

Conclusions: Doses to cardiac structures varied considerably depending on the regimen used. These doses can be used to assess which parts of the heart generally received higher doses relative to other parts of the heart. For example, left sided tangential radiotherapy tended to give higher doses to the apex compared with the other ventricular segments. Left sided regimens tended to deliver high radiation doses to the left anterior descending coronary artery, and right-sided regimens tended to deliver high doses to the right coronary artery.

Poster: Clinical track: Gastrointestinal tumours (upper and lower GI)

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Role of neo-adjuvant radiotherapy in rectal cancer - less is more?
M. Qamar1, H. Gourier1, M.A. Hawkins2, R. Hompes3, R. Muirhead4
1Oxford University Hospital, Department of Oncology, Oxford, United Kingdom
2CRUK/MRC Oxford Institute for Radiation Oncology, Department of Oncology, Oxford, United Kingdom
3Oxford University Hospital, Department of Colorectal Surgery, Oxford, United Kingdom

Purpose/Objective: Neo-adjuvant radiation in rectal cancer improves R0 resection rates and reduces local relapse. ESMO and UK National Institute of Clinical Excellence (NICE) guidance advocate consideration of short course radiotherapy (SCRT) or long course chemoradiotherapy (CRT) for intermediate risk rectal cancer and CRT for high risk tumours. However the Mercury group suggests only selected high risk tumours require neo-adjuvant CRT. As such there remains controversy regarding patient selection for radiation, with significant variations in current practise. Our use of radiotherapy over a 5-year period has mirrored Mercury guidance; we aim to assess the application of this guidance in a routine clinical setting.

Materials and Methods: A retrospective analysis was performed, at a single tertiary referral centre, of patients receiving radical surgery for primary rectal cancer from 2007 to 2012. Using multiple hospital electronic data-bases, we collected patient demographics, radiological TNM stage and CRM status, radiation delivered, pathological presence of extra mural vascular invasion (EMVI), R1 resection and local relapse rates. Risk stratification was based on the NICE criteria.

Results: A total of 275 patients were identified. Of these, the proportion with T1, T2, T3 and T4 tumours was 12%, 17%, 58% and 13% respectively. The percentage of patients with N0, N1 and N2 was 52%, 30% and 18% respectively. 1% of patients had low volume metastatic disease. 40% had threatened/involved CRM and 29% of the tumours had EMVI. Only 5% of the patients had R1 resection. The proportion with low, intermediate and high risk were 18%, 42% and 40% respectively. No patient received SCRT. 82% of the high risk patients and only 8% of intermediate risk received long course CRT. Median follow up was 54 months (range 15 to 60 months). 4 patients had synchronous metastases and hence were excluded from follow up. Of the remaining 271 patients, the rate of local and distant recurrence was 2% and 20% respectively. In the intermediate risk group, the R0 rate was 97% and the local relapse rate was 1.7%.

Conclusions: This data concurs with the Mercury guidance that only selected high risk rectal cancer patients require CRT. Over a 5 year period despite the increasingly narrowed selection of patients for CRT we have maintained a local relapse rate of 2.5%. The intermediate risk group had acceptable R0 resection and local relapse rates; therefore we would suggest that there is no role for SCRT in rectal cancer. Lastly, due to the significant rate of distant relapse, our data concurs with current plans to investigate the role of neo-adjuvant chemotherapy in rectal cancer.