Student: Chris Fernando
Title: Colorectal Multidisciplinary Meeting (MDM): Audit to determine which cases benefit from discussion in the MDM
Supervisor(s): Professor Bridget Robinson, Professor Frank Frizelle, Mr Chris Wakeman and Laura Coleman (MDM Coordinator)
Sponsor: Centre for Translational Cancer Research

Introduction

Colorectal cancer, in 2010 was the second most common cause of cancer mortality and is a major health burden in New Zealand. As the incidence of colorectal cancer increases with age, 90% of cases occurring after 50, and our 'baby boomers' age, the Ministry of Health (2011) predicts a rise in colorectal cancer by 15% in men and 19% in women by 2016.
Maintaining quality and efficiency in treating this cancer is likely to be one of the defining health issues of the next decade.

The multi-disciplinary meeting (MDM) has emerged as a key tool in the management of cancer. The colorectal cancer MDM typically includes input from radiology, pathology, surgery, medical and radiation oncology, nurse specialists and cancer nurse coordinators. The MDM provides a forum for co-ordination, communication and decision making by healthcare team members.

Aims

The Ministry of Health require that "all new cases of cancer' be discussed in a MDM. During 2014 there was clinical concern as to whether patients were being missed, and the Ministry relaxed the requirement to discuss "all cases", which prompted us to carry out this audit. This targeted audit set out to establish:

1) The number of patients referred appropriately to the MDM
2) The number of colorectal carcinoma patients not referred, and if these patients were subsequently disadvantaged
3) If, how often, and how the MDM changed the management plan already formulated by the referrer.

Methods

A database of colorectal carcinoma patients was established and a wide range of clinicopathological factors recorded. This included demographic data, carcinoma staging before and after MDM, imaging studies and treatment offered and instituted.

Patients included in the study were as follows:
1. The MDM group: Patients treated and/or diagnosed in the public system discussed at MDM from 1st November 2013 to 1st November 2014.
2. The non-discussed group: Patients not discussed at the MDM were identified through the ICD discharge codes in the CDHB PMS using the start date of 1 September 2013, to allow for referral into the MDM, and the end date of 1st November 2014.

In the latter six months of the study period the MDM subset formed the "referrer subset group". For these patients, clinicians were required to fill out a pre-MDM treatment plan. If this was not available a concerted effort was made to obtain the plan from clinic letters. This pre-MDM plan was compared to the MDM management recommendation to assess how often the MDM changed management.

The data base permitted comparison between the subsets of all the recorded parameters.

Results

The study comprised of 641 patients, of whom 459 (70%) were discussed in the MDM. Non-discussed patients and those included in the MDM did not vary greatly in the proportionate distribution of gender, ethnicity, or the majority of investigations. Those in the non-discussed group were on average 8 years older with an average age of 75 years compared with 67 years with their MDM counterparts.

Of the total rectal tumors, 98.3% were discussed in the MDM, along with 96.3% and 95% of the anal and other category tumors respectively. 62% of rectosigmoid (upper rectal) cases were discussed compared with 31.7% non discussed. Colon cancer was the only location in which the majority was non-discussed (60.8%). The staging of a cancer describes the severity of the disease based on size and degree of spread. A greater proportion of non-discussed cancers were found to be a lower stage, with 56.8% of cases being either stage I or II compared with 34.6% in the MDM group. 65.4% of MDM patients were stage III or IV compared to 43.2% in the non-discussed. MDM patients were more likely to receive a combined surgical and oncology treatment (46.6% vs 21.2%) or a standalone oncology treatment (7.9% vs 1.1%). MDM patients were also more likely to receive an oncological palliative treatment (16.1% vs 4.4%). 66.3% of non-discussed cases received surgery alone compared to 23.2% with those in the MDM group. Non discussed patients also had a slightly higher rate of best supportive care implemented with 8.9% compared with 6.3%.

MDM patients were more likely than non-discussed patients to undergo CT-Chest scanning (49.5% vs 23.6%) and conversely less likely to receive a chest x-ray (43.4% vs 75.3%). MRI scans were substantially more prevalent in the MDM group with 67.5% having the investigation compared with 9.3% in the non-discussed group.

In the referrer subset group (n=138) a clear pre-MDM plan was ascertained 68.1% of the time. Management was changed in 22.3% of these cases. When a clear referrer pre-MDM plan was not established, 38.6% of the time it was due to the referrer being uncertain and seeking guidance over several possible treatment options. The MDM reviewed and changed the staging in 4.4% of all cases in the study period with the majority (77.3%) being upstaged.

Discussion

Who is not being discussed? Are they missing potential benefit?

Almost all rectal and anal cancers were discussed by the MDM, with the few non-discussed cases either very early stage or late presentations, which would not have benefited from discussion.

National tumor standards set by the Ministry of Health state that, where possible, all rectal cancers should receive a staging MRI. Our audit found that 93.5% of rectal cancers got the investigation.

Colon and rectosigmoid cancer were analysed looking for patients that potentially missed benefit from discussion. A greater proportion of the non-discussed colon cancer stage III and IV received only surgery when compared the MDM patients but half these patients were referred to oncology and were not treated either due to patient choice or medical co-morbidities. The other half were not referred to oncology as the surgeon deemed them unfit for further treatment or by patient choice. Analysis of rectosigmoid cases was similar leading to the conclusion that non-discussed patients were not disadvantaged.

How often did the MDM discussion change management already formulated by the referrer?

The MDM directly changed management in 22.3% of patients, but more commonly leads to confirmation of the proposed treatment plan. The MDM altered the tumour stage in 4.4% of cases.

Conclusion

This has been a reassuring investigation showing it is unlikely that patients that are not discussed in the MDM are disadvantaged. A data base of has been established for colorectal carcinoma patients which will enable ongoing audit of MDM function in colorectal carcinoma treatment.