

Review of Colorectal Cancer Surveillance Program at Lower Hutt Hospital



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Introduction:

Colorectal Cancer (CRC) is an important cause of morbidity and mortality in New Zealand. With the advent of colorectal cancer screening, the incidence of surgically treatable CRC is likely to increase. Surveillance post surgical resection of CRC aims to achieve early detection of recurrence or metastatic disease, and to manage pre-malignant polyps. While surveillance protocols throughout New Zealand are similar, compliance can be variable.

Aims:

This review aims to assess Hutt Valley District Health Board's (DHB) compliance to local protocols, whether compliance rates differs by patients residential location and rate of recurrence of disease and metastasis.

Methods:

Patients who had CRC resection with curative intent and had CRC surveillance at Hutt Valley DHB between January 2011 to December 2015 were included in this study. Patients who had palliative resections and had follow up in other DHB were excluded. Patients were identified from Faster Cancer Pathway database, discharge diagnosis coding database and from theatre operation codes. Patient's demographic data, residential suburb, tumour staging, timing of clinical review, Carcinoembryonic Antigen (CEA) blood tests, computed tomography (CT) scans and endoscopy were collected and documented on an Excel spread sheet.

The Hutt Hospital CRC surveillance protocol is a 5 year program from the date of their surgery. The protocol involves:

- CEA blood test 3 monthly for 5 years
- Clinical review 3 monthly for first 2 years, then yearly for the next 3 years
- CT yearly for 5 years
- Colonoscopy during surveillance period depending on patient polyp burden

Patients who have had surveillance components recorded against the surveillance protocol.

Demographics	(N=252)	%
Age (years, Mean)	68.96	
Age (years, Range)	31 - 89	
Male (N, %)	130	51.59%
Ethnicity		
- NZ EURO	203	80.56%
- NZ MAORI	6	2.38%
- PI	8	3.17%
- Other Euro	30	11.90%
- Asian	5	1.98%
Residential Suburb		
Lower Hutt	157	62.30%
Upper Hutt	83	32.94%
Wairarapa	8	3.18%
Wellington	4	1.59%
Cancer Stage		
- I	60	23.81%
- II	94	37.30%
- III	87	34.52%
- IV	10	3.97%

Table 1. Demographics, Residential Suburbs and Cancer Staging

Reason for Incomplete Surveillance	N=119/252
Did not attend	3
Death within surveillance period	64
Discharged early due to poor health	9
Discharged to GP shared care program	10
Discharged early as per patient choice	4
Care handed over to another DHB	6
Moved out of region	4
Unknown	19

Table 2. Reasons for incomplete surveillance

Results:

252 patients fit the inclusion criteria for this study. The demographics, residential suburbs and cancer stage of the patients are shown in Table 1.

Of these patients 52.78% (N=133) completed the 5 year surveillance programme. The reasons for incomplete surveillance are displayed in Table 2. The most common reason for this was death within the surveillance period (25.4%). The completion rate for 5 year surveillance by patient residential region were 56.69% (N=89) for Lower Hutt, 44.58% (N=37) for Upper Hutt, 75% (N=3) for Wairarapa, and 50% (N=4) for Wellington.

In terms of the surveillance components, the rate of completion is displayed in Figure 1. The components in the "incomplete - other reason" were incomplete due to the reasons denoted in Table 2 (i.e. Death within surveillance period, discharged early etc.). Of these components, the CEA achieved the lowest completion rate (36.5%). With regards to clinical review, the majority of follow ups completed were by Clinical Nurse Specialists (84.46%).

In this entire cohort, metastatic disease or recurrence were found in 49 (19.44%) patients. The mean time that metastatic/recurrent disease was detected was at 16.46 months post surgery and a range of 0 to 49 months post surgery.

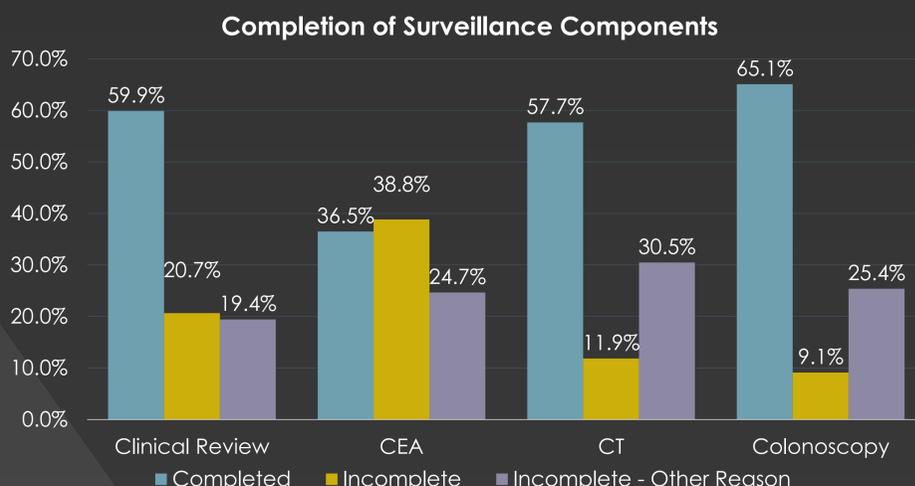


Figure 1. Completion rate of surveillance components

Discussion:

Colorectal cancer is the second most common registered cancer and second commonest cause of cancer mortality in New Zealand. CRC surveillance regimes are variable throughout New Zealand and globally. The literature suggest that surveillance is particularly of benefit to patients with resected stage II & III disease who may be candidates for aggressive therapy of recurrent or metastatic disease. Carefully selected patients who undergo metastatic liver or lung resection may have 5 year survivals of 35 – 45%. Additionally, endoscopic component aims to detect synchronous, metachronous and pre-malignant polyps at early stages.

There is contention regarding the use of intensive versus less intensive surveillance regimes. The Lower Hutt DHB surveillance regime represents an intensive approach and is in keeping with New Zealand Ministry of Health Guidelines, however, the compliance of each component can be improved. Standardizing the follow up pathways and protocols may enhance compliance. Additionally, surveillance completion rate was the lowest in the Upper Hutt region. This may be due to different patient characteristics (e.g. More elderly patients and more likely to pass away within surveillance period, more advance cancer stage) or may be due to logistical difficulty of maintaining intensive surveillance for this population. This will require further investigation.

References:

1. New Zealand Guidelines Group for the Ministry of Health. Guidance on Surveillance for People at Increased Risk of Colorectal Cancer [Internet]. Ministry of Health NZ. 2011. 1–54 p. Available from: <http://www.health.govt.nz/about-ministry/ministry-health-websites/new-zealand-guidelines-group>
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3. Snyder RA, Hu CY, Cuddy A, Francescatti AB, Schumacher JR, Van Loon K, et al. Association between intensity of posttreatment surveillance testing and detection of recurrence in patients with colorectal cancer. JAMA - J Am Med Assoc. 2018;319(20):2104–15.