SCIENTIFIC ARTICLE

Waiting times in the colorectal cancer treatment pathway in a Sri Lankan cohort: data from a specialised tertiary care setting

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Abstract

Introduction

Colorectal cancer (CRC) is the third most prevalent cancer in Sri Lanka, with rising incidence rates over the past decade. Timely intervention is essential for favourable outcomes, but prolonged waiting times remain a significant healthcare challenge globally. This study examines the time intervals between key steps in the CRC diagnostic and treatment pathway to identify potential areas for reducing delays.

Methods

A cohort of 108 patients with suspected CRC symptoms, presenting to the University Surgical Unit at North Colombo Teaching Hospital from 2017 to 2024, was analysed. Data were collected on time intervals between: [1] symptom onset to primary care visit, [2] General Practitioner (GP) referral to specialist consultation, [3] specialist consultation to colonoscopy, [4] colonoscopy to imaging or neoadjuvant chemo-radiotherapy (NCRT), and [5] colonoscopy to surgery. Median times for each interval were calculated.

Results

Of the 108 patients (36.1% male, median age 63), the median time from symptom onset to GP visit was 11 weeks. Patients referred by GPs waited a median of 3 weeks for specialist consultation. Two-thirds underwent colonoscopy within 2 weeks of specialist consultation, with 78% completing it within 4 weeks. For patients not requiring NCRT, the median time from colonoscopy to surgery was 3.86 weeks; for those requiring NCRT, it was 12.86 weeks.

Conclusions

Waiting times for colonoscopy and curative surgery are within the accepted universal standards for colorectal cancer management, in this cohort. The delay in patient presentation to primary care was notably longer than physician-related delays. Early specialist referral for bowel symptoms may reduce time to diagnosis and treatment, aligning colonoscopy-to-treatment intervals with international standards.

Introduction

Colorectal cancer (CRC) has become the third most common cancer worldwide and in Sri Lanka, with a rise in incidence over the last decade [1]. CRCs show a good overall prognosis with effective treatment, and early recognition and interventions have a significant impact on outcomes [2]. However, delays in treatment due to increased waiting times have become a global issue [2]. Guidelines have been developed, stipulating the time intervals for specialist referral, investigations, and definitive treatment [3]. Nevertheless, most health systems are struggling to meet these goals due to increasing workloads, lack of resources, and the impact of global pandemics. Consequently, the guidelines have been revised.

The COVID-19 pandemic significantly exacerbated these delays, increasing the number of patients on waiting lists, with sustained effects in subsequent years [4]. Critical steps in CRC care, such as completing a full colonoscopy, obtaining histological confirmation, undergoing imaging with computerized tomography (CT) scan or Magnetic resonance imaging (MRI), completing neoadjuvant chemoradiation, and receiving timely surgery, require specialized care. Shortages of human and physical resources in these areas significantly hinder the ability to meet waiting time recommendations [5].

However, the available data on waiting time delays come largely from resource-rich Western healthcare systems. There is a scarcity of audits from developing countries in this area. The current study aims to map the waiting times between key milestones in the management of CRC at a public sector healthcare facility in Sri Lanka that specializes in managing large bowel cancer.

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Materials and methods

All patients presenting with symptoms suspicious of large bowel cancer to the University Surgical Unit of the North Colombo Teaching Hospital are investigated and managed according to current accepted evidence-based practices. Each patient undergoes a complete colonoscopy with full bowel preparation, performed either by a specialist or a specialist trainee under supervision. All mass lesions are confirmed through histological diagnosis, and a baseline CEA level is obtained. Staging imaging is conducted using contrast-enhanced CT scans of the chest, abdomen, and pelvis. Patients with rectal cancers additionally receive rectal staging through MRI imaging. Following discussions at a multidisciplinary team meeting, patients are directed either toward neoadjuvant chemoradiotherapy (NCRT) or curative surgery under an enhanced recovery protocol. All patients are entered into a database and prospectively followed up.

The treatment pathway of 108 consecutive patients undergoing curative treatment for colorectal cancer (CRC) at the unit was analysed retrospectively from March 2024. The median time elapsed in weeks between: [1] onset of bowel symptoms to presentation to a general practitioner (GP), [2] referral from primary care to specialist consultation, [3] specialist consultation to colonoscopy, [4] colonoscopy to contrast-enhanced CT [5] colonoscopy to neoadjuvant treatment or surgery were calculated. Those who underwent neoadjuvant treatment were all offered surgery within 8 to 10 weeks as per unit protocol [6].

Results

A total of 108 patients (36.1% male; median age 63 years) who underwent curative surgery at the University Surgical Unit of the North Colombo Teaching Hospital were included in the analysis. Of these, 31% (n=34) had consulted a GP due to bowel symptoms after a median of 11 weeks (range: 0.26 - 307). The remaining 69%, who sought primary consultation with a specialist, took a median of 21 weeks (range: 0.5 - 416) from the onset of symptoms. The median delay for referral to a specialist among those who first consulted a GP was 3 weeks (range: 0.2 - 73).

Two-thirds (66%) underwent a colonoscopy within 2 weeks of specialist consultation (median – 1.2 weeks; range: 0.14 - 82), and 78% had a colonoscopy within 4 weeks. Among those who did not require NCRT, the median time from colonoscopy to surgery was 3.86 weeks (range: 0.14 - 30). For patients who completed 6 weeks of NCRT, the median time from colonoscopy to surgery was 12.86 weeks (range: 3.14 - 32). The findings of the study are illustrated by Figure 1 & 2.

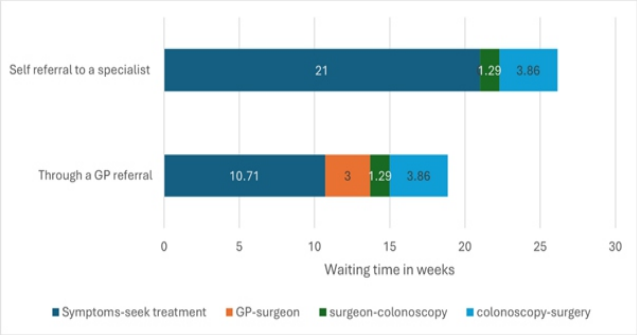

Figure 1: A bar chart indicating the time since the presentation to interventions. Time is indicated in weeks. (a) self-referral to a surgeon or a general practitioner, (b) general practitioner to a surgeon, (c) surgeon to colonoscopy, (d) colonoscopy to surgery.

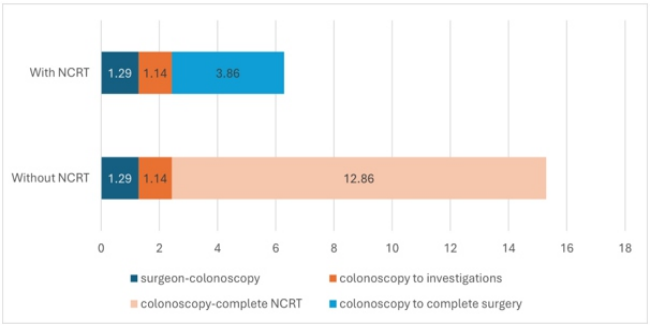

Figure 2: A bar chart indicating the time since the presentation to interventions with or without neoadjuvant chemoradiotherapy (NCRT). Time is indicated in weeks. (a) surgeon to colonoscopy, (b) colonoscopy to contrast enhanced computer tomography scan, (c) diagnosis to NCRT, (d) colonoscopy to surgery.

Discussion

CRCs are slow-growing cancers with a median doubling in size time of 211 days [7]. They have a favourable prognosis with early intervention while the survival outcome has been reported to be poor in those with a treatment delay of more than 45 days from the time of diagnosis [8]. Screening programs available for CRC have significantly improved early cancer detection in countries with a higher human developmental index [9]. Due to economic constraints, a structured mass screening programme and guidelines for early detection are not available in countries of the South Asian region.

In this study, the patient delay in presentation to primary care or a specialist was far greater compared to the delay at the physician level in CRC detection. Delay in the help-seeking attitude could be attributed to the patient sociodemographic factors such as marital status, level of education and clinical characteristics such as tumour location [10]. The delay in GP referral to a colorectal specialist in this study was similar to

that of the West. A qualitative study in the United Kingdom highlighted that poor knowledge in national guidelines for referrals among GPs, resource constraints, and professional norms as main reasons behind the reluctance to refer patient to specialists [11]. Furthermore, anemia was considered a less sinister cause by the GPs resulting in a missed opportunity in diagnosing CRC in many countries [11–13]. A high degree of suspicion in those with alarming symptoms and in-depth investigation of unexplained anaemia with luminal assessment may play a crucial role in early diagnosis. Moreover, the lack of awareness on CRC prevalence, specifically the new trends of young and early onset CRC, may lead to a delay in referral to a specialist for colonoscopy. The stage at the time of diagnosis has a role in the survival outcome of the patient [7]. Similar studies have reported a higher symptom to diagnosis interval in rectal carcinoma with symptoms such as tenesmus (4.4 months) and rectal bleeding (4 months) [14]. This is contrary to the common perception, where a patient is expected to present earlier due to troublesome symptoms. However, a shorter diagnostic interval has also not shown to result in a better survival in advanced CRC [8]. This waiting time paradox is observed in rectal cancers and not in colon cancers [14]. This could stem from confounders such as type of tumour, tumour aggressiveness and biological virulence [14]. Patients above the age of 60 years has shown to have a lesser diagnostic delay compared to the young [15]. A study from Indonesia reported that multiple visits to several health care centers contributed to diagnosis delays and higher incidence of metastatic disease at presentation amongst young patients with CRC [15]. This effect could be attributed to a low level of suspicion amongst primary healthcare providers due to the lack of awareness of the disease pattern and emerging trends.

Colonoscopy and biopsy remain the gold standard diagnostic tool for colorectal cancer. The availability of such facilities is limited in our setting, requiring a referral system. Most of the present cohort underwent colonoscopy within 4 weeks of referral, which was similar to the referral to colonoscopy time interval in the West [15]. Treatment delays were lower compared to the diagnostic delays in this cohort [16]. Diagnostic delay plays a key role, since once it is confirmed, established treatment protocols take effect, which includes referral to chemoradiotherapy or surgery [14,16].

The present study did not consider the effect of patient-related sociodemographic factors on the delays. Data on treatment delays in CRC from the South Asian region is scarce. Therefore, the current study sheds light on this important aspect in managing CRC in this region. Future multicentre studies form the region are required to evaluate sociodemographic factors, health system function affecting the delays and the impact of treatment delays on overall survival.

Conclusions

Patient presentation to primary care delay is three times higher than the physician delay in this cohort. Those who seek primary care for bowel symptoms had a lesser lag period in receiving specialist care compared to those who did self-specialist referral. The time to colonoscopy after specialist referral and colonoscopy to treatment delays are comparable to the populations with a high human development index. Public education on alarming symptoms of CRC and improvement in primary healthcare infrastructure could further reduce the presentation delay in this population.

Conflicts of interests

The author(s) declare that they have no competing interests.

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There were no funding sources for the study.

Data Availability Statement

The original contributions presented in the study are included in the article, further inquiries can be directed to the corresponding author. The data, methods used in the analysis, and materials used to conduct the research will be made available to any researcher for the purposes of reproducing the results of replicating the procedure.

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