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Primary colorectal lymphoma – A single centre experience

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ABSTRACT

Purpose: The incidence of primary colorectal lymphoma (PCL) is rare (0.2–0.6% of large bowel malignancy). Up to one third of Non-Hodgkin's lymphoma will present with extra-nodal manifestations only. Extra-nodal lymphomas arise from tissues other than the lymph nodes and even from sites, which contain no lymphoid tissue. The incidence of Non-Hodgkin's lymphoma has increased over the past fifty years. The objective of this study was to examine our experience of PCL.

Methods: A prospectively-compiled database (1988–2012) of patients with colorectal cancer was retrospectively examined for cases of colorectal lymphoma. A retrospective chart review identified cases of PCL based on Dawson's criteria. Clinical information was obtained from case notes.

Results: Eleven patients (0.3% of 4219 patients) were identified (6 male, 5 female). The median age at diagnosis was 63 years. Mode of presentation varied; abdominal pain, a palpable mass and per rectal bleeding being the most frequent. The caecum was the most frequently involved site (5/11). Nine patients underwent surgical management, one had chemotherapy alone and one had radiotherapy alone. All cases were non-Hodgkin's lymphoma, with diffuse large B-cell lymphoma in majority. The median event-free survival of those treated with surgery and post-operative chemotherapy was 10 months (range 5–120 months).

Conclusion: Primary colorectal lymphoma is rare. Management is multidisciplinary and dependent on the subtype of lymphoma. Due to the rarity of diagnosis, there is a paucity of randomised control trials. Most information published is based on individual case reports and there is, thus, no clear treatment algorithm for these cases.

Introduction

The incidence of primary colorectal lymphoma (PCL) is rare, comprising 10–20% of gastrointestinal lymphoma and 0.2–0.6% of large bowel malignancy.[1] Up to one third of Non-Hodgkin's lymphoma will present with extra-nodal manifestations only. Extra-nodal lymphomas are lymphomas that arise from tissues other than the lymph nodes and even from sites, which contain no lymphoid tissue.[2] The gastrointestinal tract is the most common location for extra-nodal lymphoma.[3] The stomach remains the most commonly involved

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site in primary gastrointestinal lymphoma, but colorectal involvement occurs in 10–20% of cases.[2,4]

Approximately five hundred new cases of Non-Hodgkin's lymphoma are diagnosed each year in Ireland.[5] For reasons that are not understood, the incidence of Non-Hodgkin's lymphoma has been increasing slowly over the past fifty years.[5] The National Cancer and Surveillance Epidemiology and End Results Databases in the USA demonstrated that the incidence of colonic lymphoma more than doubled from 1 per million in 1973 to 2.3 per million in 2004.[6]

Dawson's criteria differentiate between primary intestinal lymphoma and systemic lymphoma with secondary intestinal involvement.[7] There are five components: (i) no palpable, superficial lymph nodes at presentation; (ii) no enlarged mediastinal lymph nodes on chest X-ray; (iii) normal range for white blood count including total and differential; (iv) at surgery, only the regional lymph nodes are involved; and (v) the liver and spleen are without disease.

PCL is a disease encountered in, both, the emergent and elective setting. Signs and symptoms at presentation depend largely on the localization. Clinical presentations include abdominal pain, anorexia or weight loss, obstruction, a palpable mass, diarrhoea, nausea and vomiting, perforation and bleeding.[8] Compared with nodal lymphomas, fewer patients with PCL have bone marrow involvement, elevated lactate dehydrogenase levels, fever or night sweats.[4] Due to the non-specific nature of symptoms, patients frequently present late with advanced loco-regional disease and when serious complications occur, such as perforation. Wong et al. reviewed their experience of PCL over a 10-year period and found that clinical presentation was most commonly due to abdominal pain (71.4%), and less frequently due to anorexia with loss of weight (42.9%) and abdominal mass (28.6%). Less commonly encountered presentations included per rectal bleeding, alteration in bowel habit and intestinal obstruction.[1]

PCL most commonly involves the ileo-caecal region, thought to be due to the abundance of lymphoid tissue in the area.[9,10] Histopathologically, 80–90% of primary gastrointestinal lymphomas are of B-cell origin. Large B-cell lymphoma and mucosa-associated lymphoid tissue (MALT) lymphoma are the most common histopathological subtypes occurring in the gastrointestinal tract.[11]

The management of PCL is controversial and often a source of debate. Because PCL is a rare diagnosis, optimal treatment has not been defined. Current recommendations are primarily based upon data from case series, rather than large randomised control trials. PCL has historically been managed by surgical resection ± chemotherapy with multiple agents. Multimodal management with radical surgical resection of the primary lesion followed by standard chemotherapy affords better local disease control and a better survival outcome.[11] The aim of surgery is to remove the lesion, which has potential to obstruct, perforate, intussuscept or bleed. Adjuvant chemotherapy is performed in order to prolong survival. With the advent of combination chemotherapy with cyclophosphamide, doxorubicin, vincristine, and prednisolone (CHOP) or CHOP-like regimens, disease-free survival rates of 35–45 percent at four years have been realized in patients with aggressive lymphoma.[12] Survival has been further improved with the addition of rituximab to standard CHOP-based therapy (R-CHOP).[13]

Aim

The objective of this study was to examine our experience of PCL. We describe our experience in the presentation and management of primary colorectal lymphomas over a 24-year period.

Methods

We retrospectively examined a prospectively-compiled database of patients with colorectal cancer. The cases were selected from the database based on type of colorectal cancer. We then performed a retrospective chart review to confirm inclusion of patients based on standard diagnostic criteria of PCL, the Dawson's criteria.[7] All cases had been reviewed by the local haematology-oncology service at time of diagnosis to accurately investigate and stage disease.

The cases were assessed for the following clinical information: age, sex, history of immunosuppressive treatment, presentation, presence of B symptoms, site of involvement, management and surgical procedure performed, length of stay, lymphoma subtype, adjuvant/neoadjuvant therapy, response to initial treatment, follow-up period, event-free survival and overall survival. The subtype of lymphoma was classified according to the WHO classification system.[14]

Results

Eleven (6 male, 5 female) cases of PCL were identified from 4219 cases of colorectal cancer from 1988 to 2012. Thus, PCL amounted to 0.3% of cases over a 24-year time period. The median age at diagnosis was 63 years (mean 60, range 30–78) (Table 1). Two patients had a history of immunosuppression for both orthotopic liver transplant and inflammatory bowel disease. Of interest, the patients with a history of immunosuppression were younger than their counterparts without a history of immunosuppression (30, 40 years respectively).

The mode of presentation of PCL was varied (abdominal mass ($n = 3$), per rectal bleeding ($n = 3$), pain ($n = 2$), weight loss ($n = 1$), altered bowel habit ($n = 1$) and colonic perforation ($n = 1$)). Two of the twelve patients had B symptoms on presentation.

In total, there were 13 lesions, as two patients had synchronous lesions (ascending colon and caecum; and ascending colon and sigmoid colon). The most common sites of involvement were the caecum (45%, $n = 5$) and the ascending colon (36%, $n = 4$). Alternative sites of involvement included: the rectum (18%, $n = 2$) and a single case in both the sigmoid (9%, $n = 1$) and the transverse colon (9%, $n = 1$).

Nine patients underwent surgical management (emergency (9%, $n = 1$), elective (73%, $n = 8$)), one had chemotherapy alone (9%, $n = 1$) and one had radiotherapy alone (9%, $n = 1$). Both cases that were managed non-operatively had primary rectal lymphoma, where the role of surgery is controversial due to the associated morbidity of rectal resection.[15] The patient treated with chemotherapy alone was noted to have primary rectal MALToma and was not noted to have