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Case Report

SMALL BOWEL NEOPLASM A DIAGNOSTIC DILEMMA

Jawaid Younus [1] & Huw Jenkins [2]

ABSTRACT: Although uncommon, small bowel tumors often present as a diagnostic dilemma for the clinicians. This important clinical entity requires various diagnostic steps and quite often these steps have to be repeated to reach a firm diagnosis. We present here our experience with three such cases and a brief review of the literature regarding the presentation and the diagnostic steps found helpful in arriving at a diagnosis.

KEY WORDS: Small Bowel Neoplasia, Diagnosis.

INTRODUCTION

The tumors arising from the small bowel are uncommon. Consequently there is limited information in the literature regarding the management of these neoplasms. These tumors often present with a variety of non-specific symptoms, posing a diagnostic challenge to the clinicians. Diagnosis commonly requires a high level of suspicion and a persistent effort from the clinician. Hence it is not surprising that often the diagnosis of small bowel tumors is made late in the clinical course of the disease.

This article describes our experience of three cases of small bowel malignant tumors, which despite appropriate and reasonable diagnostic procedures at a Canadian Tertiary Care Centre, proved quite difficult to diagnose.

1. Dr. Jawaid Younus, MD, FRCPC
British Columbia Cancer Agency/Cancer Centre for the Southern Interiors, Kelowna, BC, Canada
2. Dr. Huw Jenkins, MD, FRCPC
Al-Khalifa Medical Centre, Abu-Dhabi

Correspondence:

Dr. Jawaid Younus
Cancer Centre for the Southern Interiors,
399 Royal Avenue,
Kelowna, BC V1Y-5L3, Canada
e-mail: jyounus@bccancer.bc.ca

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CASE REPORTS

1. A 37 years old female was evaluated at the hospital with recent history of menorrhagia. She presented with a two week history of post-prandial nausea and vomiting. About four days prior to admission she developed 6-8 watery stools without any blood or mucous, but with cramps and urgency. Physical examination was unremarkable. Investigation showed Hemoglobin (Hb) 115 g/l with microcytosis. She was investigated with a chest X-Ray; abdominal X-Ray, abdominal CT scan and stool examination which were all non-contributory. An endoscopic examination of colon and at least twenty cms of distal ileum was normal. A biopsy of cecum was reported as showing microscopic colitis. Subsequently, with improvement in her symptoms, the patient was discharged home on Pentasa, (5-amino salicylic acid) ferrous gluconate and Provera(Medroxyprogesterone acetate). An upper GI follow-through was obtained as an outpatient which showed thickened

valvulae conniventes, most marked in ileum. Three months later due to persistence of abdominal pain, enteroclysis was performed. Except for somewhat narrowed lumen of terminal ileum, no other abnormalities were noticed. Anti-reticulin and anti-mycelial antibodies along with an anti-nuclear antibody (ANA) were found to be negative. Lower abdominal crampy pain, vomiting and diarrhea prompted another in-hospital evaluation. Upper GI endoscopy and small bowel biopsy were both normal. CT scan of abdomen and pelvis showed ascites and thickened small bowel loops. Small bowel follow-through revealed mucosal irregularities with wall thickening. A surgical opinion suggested exploration laparotomy, three feet of the mid-jejunum was removed. Pathological evaluation of the specimen showed a jejunal Leiomyosarcoma.

2. A 48-year old male was initially evaluated by his primary physician for an epigastric pain of six-month duration. He had intact appetite but noted a recent eight pounds weight loss. Although the examination was normal, the patient had a Hb of 71g/l with hypochromasia and microcytosis and the stool examination showed presence of occult blood. An upper GI endoscopy with biopsy of distal duodenum was normal. Colon and distal ileum were normal endoscopically. Small bowel follow-through and an ultrasound of upper abdomen were also normal. A subsequent CT scan of abdomen was also unremarkable. Three months later, with return of his symptoms, an entroclysis was obtained which was also normal. Two months later he underwent an endoscopic retrograde cholangio-pancreaticography (ERCP) which failed to reveal any pathology. His anemia responded to oral iron therapy. Five months later he was readmitted with nausea, vomiting and bloating. Upper GI endoscopy again showed normal esophagus, stomach and duodenum and the biopsy of gastric antrum showed superficial chronic gastritis. Push enteroscopy was normal. He was followed along for two years with minimal symptoms and somewhat improved haemoglobin content with iron therapy. He then presented again with an episode of exacerbation of his abdominal pain, nausea and vomiting and worsening anemia. A small bowel follow-through showed localized narrowing in proximal jejunum and a subsequent CT scan revealed a 4.5x6x6.3 cm mass. The patient underwent exploratory laparotomy and tumor was found to be an adenocarcinoma of jejunum.

3. A 52 years old woman underwent an upper GI Endoscopy for her recurrent epigastric discomfort of three months duration, despite treatment with Omeprazole. Physical examination and laboratory evaluations were within normal limits except for a hypochromic microcytic anemia (Hb 83g/l). She was found to have duodenitis and was treated with Ranitidine for eight weeks. She had a repeat upper GI Endoscopy and a colonoscopy, five months later due to mild bout of recurrent symptoms and persistent anemia. Both procedures did not reveal any pathology. A small bowel follow-through was also unremarkable. Her anemia did respond to oral iron supplement and rose up to 118 g/l. In the next several months anemia appeared again and the patient was treated with different iron preparations. However, later abdominal pain returned and fecal occult blood test was positive. She underwent another upper GI endoscopy, which was essentially normal. A 24-hour fecal fat collection test was also within normal limits. Patient had a CT scan, which revealed a 10x5x9 cm mass, related to small bowel, with thickened bowel walls. The pathology of the resected specimen showed a well-differentiated adenocarcinoma of small bowel.

DISCUSSION

Although small bowel (SB) is he longest segment of gastrointestinal (GI) tract, less than

10% of all GI tumors are found in this area[1]. Close to two thirds of all SB tumors are malignant[2,3]. The frequency depends upon the type and location of the tumors. Adenocarcinoma, carcinoid tumors, lymphoma and sarcoma are found in the listed order of freqeuncy[4]. The overall incidence observed in Canada[5] is similar to USA[6,7] about 0.4-1/100,000 population, with slight preponderance of males[8,9].

Majority of patients with SB cancer present in their 6th to 7th decade of life[10]. Patients with malignant tumors are usually symptomatic[10,11]. Pain and bleeding with weight loss are the most frequent problems at presentation[10,11,12,13,14].

For SB tumors, physical examination is usually not helpful to the clinicians. With blood loss, an iron deficiency picture with mild to moderte anemia is seen on complete blood count. Biochemical tests may show increased 5-HIAA (Hydroxy indole acetic acid) levels and abnormal liver enzymes depending upon the type and location of the tumor. Upper GI series is abnormal in majority of patients with SB tumors, however, a tumor is discernable in only one third of patients[15,16]. Enteroclysis may significantly improve the diagnostic yield[16,17,18]. Barium enema may shows thickened distal ileum but often this finding is considered non-specific. CT scan has been found to be quiet helpful in arriving at a diagnosis. Several series have shown the diagnostic prediction by CT scans reaching close to 80%, with tumor histology and staging evaluation possible in about 2/3rd of pateints[19]. Technetium labeled red blood cells nuclear medicine scan may provide some help in localizing the source of bleeding[20].

Upper GI endoscopy with small bowel enteroscopy remains an attractive option for possible direct visualization and with a higher yield of diagnosis. However, there are practical problems. In performing Push enteroscopy, when a colonscope is passed through esophagus and stomach into the duodenum and then distally, there are no landmarks beyond the ligament of Treitz. Therefore there is no reliable way of objectively assessing how much of the jejunum has been examined. Furthermore it is difficult to give the patient a realistic estimate of the risk of perforation. Intraoperative enteroscopy, when the colonoscope is manipulated down the intestine by a surgeon through the opened abdomen allows complete examination but involves all the risks and morbidity associated with a laparotomy.

Thus, not surprisingly, there is an obvious delay in diagnosing SB tumors, often amounting to more then 6 months[21]. In our three patients, SB tumors consisted of adenocarcinoma and leimyosarcoma. All of these patients had similar complaints, with pain and anemia dominating the presentation and the clinical course. Despite extensive studies, both initially and at the time of recurring symptoms, these patients remained as a diagnostic dilemma for a long period of time. All of these patients had repeated procedures with initial CT scans read as being normal. Although enteroclysis is cited in the literature to enhance the diagnostic capability, in our two cases the findings were not helpful.

In conclusion, although the patients with SB malignant tumors present with symptoms, they remain undiagnosed, for a long time despite prudent conventional investigations. Persistence with diagnostic studies is the only possible way to arrive at a diagnosis. Enteroclysis and/or push enteroscopy may prove more helpful in finding pathology. The diagnostic yield may improve with CT scans. In those cases where all these investigations are negative and the index of suspicion remains high, then a laparotomy is indicated and if no lesion is palpable, an intraoperative enteroscopy should be done.

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