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Sporadic small intestinal hamartomatous polyp: Causative element for obscure gastrointestinal bleeding and iron deficiency anemia: A case report

Ali Issa

ABSTRACT

The term "obscure gastrointestinal bleeding" (OGIB) refers to gastrointestinal (GI) bleeding that is persistent or recurring and that cannot be distinguished by upper or lower GI endoscopy as a standard diagnostic procedure. There is a rare clinical disorder known as hamartomatous polyp (HP) which is characterized by a tumor-like development made up of mature cells and normal tissue that is distributed or numbered abnormally. The Peutz–Jeghers syndrome, juvenile polyposis syndrome (JPS), and phosphatase and tensin homologue deleted on chromosome 10 (PTEN) hamartoma tumor syndromes are the collection of genetic illnesses. In this case report, a 59-year-old man reported with sporadic hamartomatous jejunal polyp and unusual signs of recurrent gastrointestinal bleeding manifested by melena. The patient was diagnosed with capsule endoscopy and the treatment to the patient was given. So, it is recommended to go through careful endoscopic examination followed by endoscopic removal of polyps to reduce the risk of complications such as bleeding, degeneration, and the risk of surgery.

Keywords: Capsule endoscopy, Gastrointestinal, Hamartomatous polyp, Obscure gastrointestinal bleeding

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INTRODUCTION

Obscure gastrointestinal bleeding (OGIB) is defined as persistent or recurrent gastrointestinal (GI) bleeding from any source, unidentified using conventional upper or lower GI endoscopy. In approximately 75% patients with OGIB, small intestine harbors the causative pathology and its tumors are cause of OGIB in around 7% of all patients [1]. Hamartomatous polyp (HP) is a rare clinical condition involving tumor-like growth comprising normal tissue and mature cells in abnormal numbers or distribution [2]. This condition occurs either sporadically or belongs to a group of genetic disorders: Peutz–Jeghers syndrome, juvenile polyposis syndrome (JPS), and phosphatase and tensin homologue deleted on chromosome 10 (PTEN) hamartoma tumor syndromes (which encompasses Bannayan–Riley–Ruvalcaba syndrome and Cowden syndrome) [3]. The exact prevalence of GI polyps is unknown, but autopsy studies reveal existence of intestinal polyps in up to 60% of adult population [4–6]. They are either pedunculated (with a stalk) or sessile (without a stalk) and further classified into cancerous and non-cancerous [7]. Sporadic GI polyps can lead to increased risk of colorectal cancer, which necessitate appropriate management and follow-up. There is a paucity of literature in the Middle East

region providing information on prevalence of GI polyps [8]. Here, we present an interesting case of a middle-aged man having sporadic hamartomatous jejunal polyp with atypical manifestations.

CASE REPORT

A 59-year-old patient presented to our out-patient department with chief complaints of recurrent gastrointestinal bleeding manifested by melena. Complete blood count indices indicated lower hemoglobin (10 g/dL) and ferritin levels. The patient also had medical history of intermittent abdominal discomfort, bloating without pain, vomiting, and weight loss. He had a known case of ischemic heart disease, hypertension, hyperlipidemia, and type 2 diabetes mellitus. No addiction history of smoking or alcohol ingestion was noted. The patient had neither gastrointestinal previous condition nor his family history was significant in the past. At the present visit, the patient was treated with intravenous iron infusion to address lower hemoglobin levels. His vital signs were stable. His hemoglobin level improved to 13 g/dL.

The patient underwent upper and lower GI endoscopy which failed to locate pathology; hence, it was decided to use capsule endoscopy (CE) for further diagnosis.

As shown in Figure 1, after 52 minutes of starting capsule endoscopy, a polypoid lesion was captured in the jejunum. This finding corroborated with the patient's presenting complaints of melena and anemia. The patient had low hemoglobin (10 g/dL) and low ferritin levels. The patient was diagnosed as a case of secondary anemia due to bleeding. Following this, the patient was managed with intravenous iron preparations for anemia.

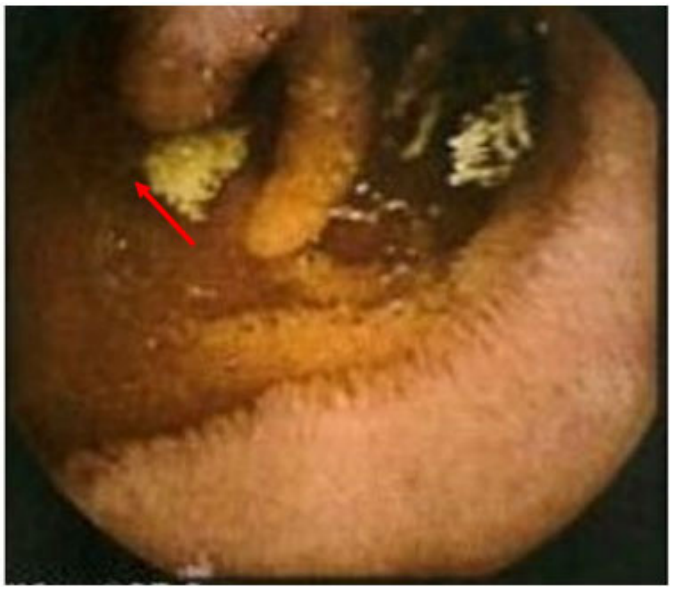

Figure 1: The polyp seen on capsule endoscopy at 50 minutes.

After two weeks, a single balloon enteroscopy was performed which disclosed a 3 cm large pedunculated polyp in the proximal jejunum (Figure 2). As shown in Figure 3, histological section exhibited arborizing branches of smooth muscle from muscularis mucosa and polyp covered by normal small bowel mucosa. Mild acute inflammation was also noted. No dysplasia or malignancy was reported. The polyp was resected successfully after injecting the stalk with 0.9% N-saline with methylene blue and adrenaline, then using a diathermic snare to cut the stalk and finally extracting the polyp by a Roth net (Figures 4 and 5). The procedure was uneventful and the patient was discharged after 6 hours. On periodic follow-up, there was no relapse of melena or anemia.

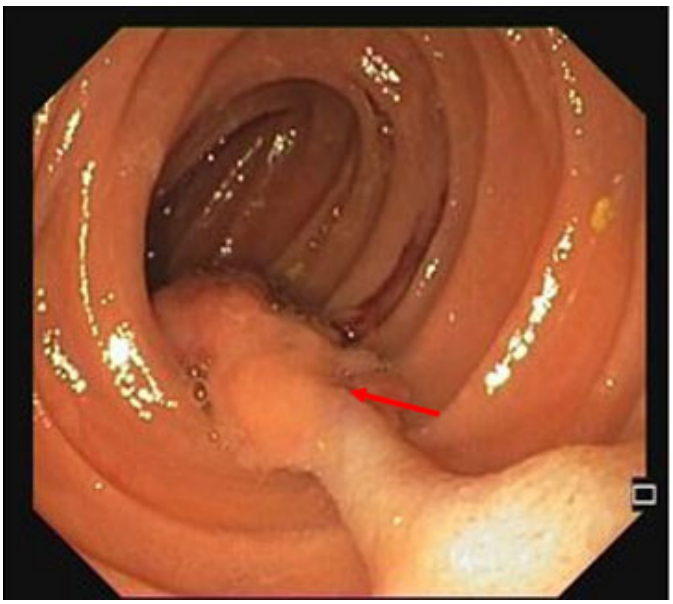

Figure 2: The pedunculated polyp in the proximal jejunum.

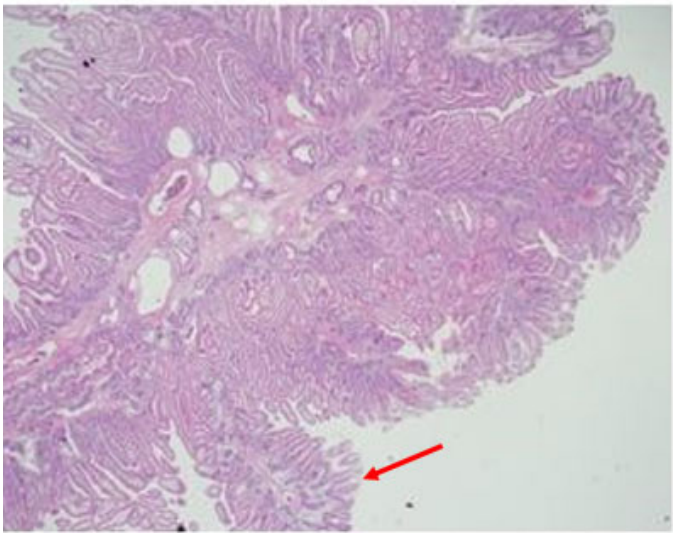

Figure 3: Histological section from muscularis mucosa show arborizing branches of smooth muscle and polyp covered by normal small bowel mucosa.

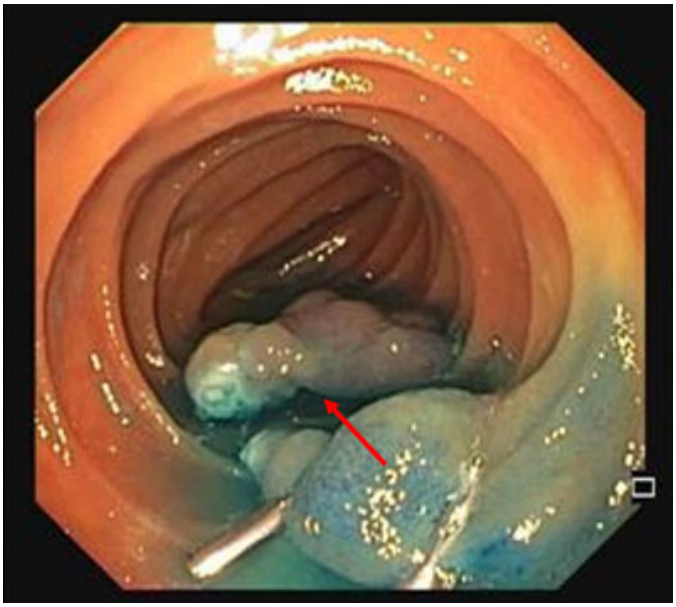

Figure 4: The polyp stalk was cut using a snare and a hemostatic clip applied to prevent secondary bleeding.

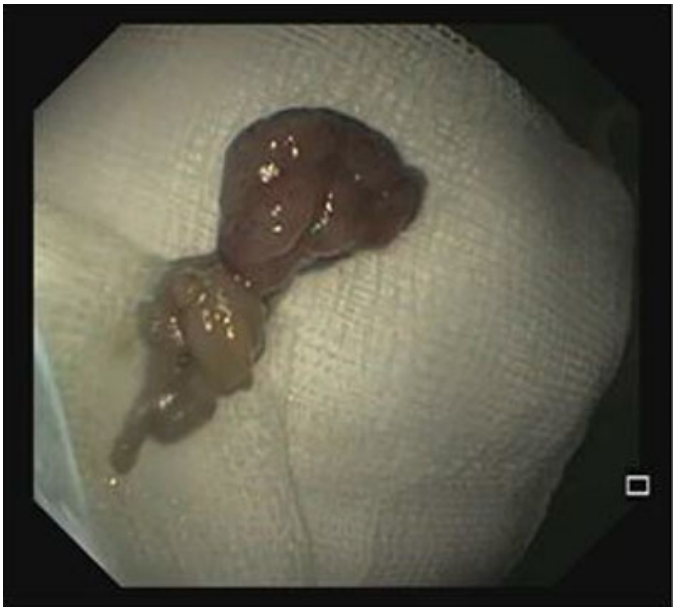

Figure 5: The polyp after resection.

DISCUSSION

Obscure gastrointestinal bleeding pose a diagnostic challenge in clinical practice [9]. Involvement of small intestine pathology adds to the complexity of evaluation, due to its extensive length, vigorous contractility, and free intraperitoneal location [10]. Asian patients with OGIB were more likely to have neoplastic features, whereas angioectasia was more common in Western population [11]. Young patients are more likely to be diagnosed with Meckel's diverticulum and small bowel submucosal tumors: gastrointestinal tumors, carcinoids, lipoma, as an etiological finding for OGIB. Angiodysplasia, diverticula, and malignant tumors are frequently encountered in elderly patients [12].

For a patient with OGIB, upper GI endoscopy and colonoscopy are considered as investigations of choice. During management of OGIB, small intestinal capsule endoscopy is considered as an important asset when any of diagnostic investigations fail to deliver. If the above investigations fail to locate any pathology, Small intestinal Capsule endoscopy is a valuable diagnostic tool in OGIB. In suspected small intestinal pathology cases, confirmation of the diagnosis is done by enteroscopy with method of tissue sampling [13].

A study done by Ohmiya et al. suggested a cross-sectional imaging technique, contrast-enhanced helical computed tomography (CT) is performed in patients with over and occult OGIB. These methods help to evaluate small-bowel diseases only in absence of any contra-indications of renal failure or allergy to contrast agents [14].

In year 2000, CE was developed as a procedure; later it was upgraded to double-balloon enteroscopy (DBE) in 2001 and single-balloon enteroscopy (SBE) in 2007. All these techniques have been a boon to management of cases of small-bowel disease, basically helping in early endoscopic diagnosis of deep small intestinal lesions. Lesion diagnosis (vascular as well as small ulcerative) is facilitated early by CE as the images are captured via a transparent dome with the capsule duly attached to the intestinal wall. Capsule endoscopy is a simple procedure performed with minimal discomfort, physical burden any only involves an exception of capsule retention. This favors CE as a newly advanced important diagnostic tool for management of cases with OGIB [15].

As compared to double balloon enteroscopy (DBE), diagnostic accuracy of CE for OGIB is somewhere between 41% and 80% and is also considered the gold standard for small bowel visualization [10].

In our case, video capsule endoscopy and single balloon enteroscopy played a crucial role in arriving at the definite diagnosis and management. Endoscopically, hamartomas present as pedunculated polyps (>1 cm), indistinguishable from adenomatous polyps [8].

On histological evaluation, polyps generally show a superficial serrated architecture, variably elongated crypts with epithelial proliferation (confined to basal segment of crypts) and lack of epithelial dysplasia [16]. In our case, GI polyp appeared as a sporadic growth covered by normal small bowel mucosa with absence of dysplasia.

Also, in the present case, after successful resection, the patient developed no relapse of anemia or melena over a follow-up period of three months. Relevant monitoring and follow-up colonoscopy may be performed recommended every 10 years in patients with no additional polyps or in presence of distal, miniature hyperplastic polyps. In patients with presence of miniature, sessile serrated polyps devoid of dysplasia, a five-yearly follow-up may suffice and three-yearly monitoring is recommended in

patients with large, sessile serrated polyps or a dysplastic polyp or a serrated adenoma [17].

An important limitation is that bleeding can recur even after CE examination yielding negative results which often require repeat CE examination. Another limitation of CE could be diagnosing cases of submucosal tumor lesions with an intact mucosal surface. In such cases, balloon enteroscopy (BE) or computed tomography (CT) could be better options [18].

CONCLUSION

Obscure gastrointestinal bleeding remains a resource intensive clinical condition in Middle East region. Among its etiological background, hamartomatous polyps syndromes are a rare entity. Histological and clinical examinations are pivotal for the diagnostic confirmation. These syndromes are associated with an increased risk of GI or non-GI cancers and hence necessitate multidisciplinary clinical management. We recommend careful endoscopic examination followed by endoscopic removal of polyps to reduce the risk of complications such as bleeding, degeneration, and the risk of surgery.

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Author Contributions
Ali Issa – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

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Conflict of Interest
Author declares no conflict of interest.

Data Availability
All relevant data are within the paper and its Supporting Information files.