

## PEUTZ JEGHERS SYNDROME (PJS)

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A rare cause of acute lower gastrointestinal tract (GIT) bleeding

#### **A report on a case at Ibn Sina Teaching Hospital in Mosul with five years follow up**

\*Ismail D. Saeed Thamer J. Abdullah Al-Hussary

\* M.B.Ch.B, C.A.B.M, Department of Medicine – College of Medicine.– University of Mosul. Mosul – Iraq

\*\* M.B.Ch.B, M.R.C.P, Ibn Sina teaching hospital Mosul, Iraq.

### **Abstract**

**A case report:** A 25-year-old young man was referred to endoscopy unit at Ibn sina Teaching Hospital in Mosul for colonoscopic evaluation of recurrent rectal bleeding since several months. Clinical, endoscopical, radiological and histological evaluation of the patient confirmed the diagnosis of Peutz Jeghers syndrome (PJS). The patient was followed for 5 years for any complication or recurrence of symptoms.

**Key words:** Peutz-Jegher's syndrome, Intestinal polyposis, Rectal bleeding.

### **Introduction**

Cases of gastrointestinal polyposis and, in particular those of small intestine had been described since 1896 (1), but a Dutch doctor, (Dr. Peutz) in 1921 was the first to recognize the familial association of gastrointestinal polyposis and mucocutaneous pigmentation, and an American doctor, (Dr. Jeghers), in 1949 who again described various features of the disease(2). The term "Peutz-Jeghers syndrome" (PJS), was first seen in medical literature in 1954 by Bruwer et al. (1954) of the Mayo Clinic (3).

The disease appears either as sporadic cases or runs in families and inherited as an autosomal dominant trait and appears to be a result of germline mutation of the serine/threonine kinase 11(STK11/LKB1) (4, 5). In general, in western countries It affects approximately 1 in 100,000 people, although the exact international frequency of this rare disorder is not known ( 6). The condition develops since birth but most cases are usually present during early adulthood (The average age at diagnosis is 23 years in men and 26 years in women) and it affects male and female nearly equally (6). The syndrome is characterized by appearance of small dark melanocytic macules in lips, buccal mucosa, fingertips or toes; with multiple gastrointestinal

hamartomatous polyps in large and small intestine (2). Although the intestinal lesions are hamartomas, and generally do not have the same type of precancerous polyps as those with familial adenomatous polyposis (FAP) but still It is associated with an increased risk of various intestinal and non-intestinal neoplasm which may increase with age(7,8). The patient is usually presents with anaemia, bleeding per rectum or cramping abdominal pain (6,9). The presence of dark-brown mucocutaneous freckles may be the only sign of the disease particularly in small children (10). The diagnosis is usually done on clinical bases but investigations are needed to confirm such a diagnosis and to exclude complications.

#### **A case report and procedure:**

A 25-year-old man, presented with history of recurrent attacks of mild – moderate bleeding per rectum that started for several months. He was told to have rectal polyps. The last attack before consultation to our unit was on March 2007 when he referred for colonoscopy at Ibn Sina Teaching Hospital for further evaluation. In addition; he sometimes suffered from attacks of abdominal colics of mild to moderate severity. On examination: A young man who looked healthy but he was otherwise very anxious about his condition. General examination revealed large numbers of

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brownish and blackish pigmentations distributed mainly over fingers, toes, lips and mucous membrane of oral cavity (**Images: 1, 2, and 3**).

Diagnostic total colonoscopy was performed by using Olympus-Videoscope with therapeutic channel. We encountered 30-35 polyps, distributed throughout the rectum, sigmoid colon, descending colon, and proximal part of transverse colon; yet the caecum and ascending colon looked normal. Most polyps were small in size measuring only few millimeters in diameter but few polyps were larger measuring several centimeters in diameter. The shapes of polyps were also differed; we encountered a polyp with three heads (cauliflower appearance) at sigmoid area. The majority of polyps were with stalks, but few were sessile. Following the patient's consent, a table time for polypectomy sessions were arranged, started with large polyps or those with tendency to bleed. During the initial and subsequent visits we removed more than 30 polyps in 25 sessions. With available imaging and endoscopic studies, a survey of other parts of gastrointestinal tract was done.

Oesophagogastroduodenoscopy (OGD) revealed the presence of an ulcerated polyp at area between 1<sup>st</sup> and 2<sup>nd</sup> part of duodenum. A barium follow-through and CT with contrast study of the rest of small intestine showed the presence of several filling defects. According to radiological report and clinical setting, the finding was contributed to the presence of small intestinal polyps. The submitted histological materials from several large bowel polyps showed typical hamartoma, while in others the findings were not conclusive. The diagnosis of Peutz-Jeghers syndrome (PJS) was based mainly upon undoubted clinical findings and the presence of intestinal polyps. The patient was presented in clinical meeting at Ibn Sina teaching Hospital on March 2007 and subsequently in 2008 and 2009.

The basic investigations: Complete blood count (CBC), blood chemistry including liver and renal function tests were performed initially and in subsequent visits. Except for mild degree of

iron deficiency anaemia, these tests were unremarkable.

The family survey, the extra-intestinal manifestations other than pigmentation and imaging studies of liver, gall bladder and pancreas were negative in the initial and subsequent evaluations.

## Discussion

Despite the fact that the histological examination of biopsy material from polyps is mandatory in every case; the diagnosis can be made solely from typical clinical and endoscopical finding. As it appears from review of literatures; localization of lesions in the oral mucosa is typical of patients with PJS and does not happen with other types of dermatologic pigmented lesions, such as common lentigo and other freckles which do not localize in the buccal mucosa<sup>(2, 3, 9)</sup>.

Undoubtedly, our patient fulfill diagnostic criteria for PJS; that is to say; the presence of multiple hamartomas at different parts of gastrointestinal tract which are representing the first part of the syndrome and multiple melanin spots of the lips, buccal mucosa, and digits which are representing the second part of the syndrome<sup>(2)</sup>. Unusual cases may present with either intestinal hamartomaous polyposis without melanin spots, which are rare, or isolated melanotic mucocutaneous pigmentation without gastrointestinal polyps because of the genetic variability of the syndrome<sup>(5, 10)</sup>.

The disease is usually inherited as autosomal dominant but lack of family history as in our patient is by no means against the diagnosis. Brigg et al. (1976) observed a patient of presumed PJS without spots or positive family history<sup>(5)</sup>. Again Griffith and Bisset (1980) reported 3 cases. In 2 of them, the family history was negative; in the third, the father and a paternal uncle had melanin spots of the lips but no history of intestinal disorder<sup>(10)</sup>.

Anaemia and lower gastrointestinal bleeding are common features of PJS<sup>(5, 6, 9)</sup>; both of these features were occurred

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subsequently in our patient. The anaemia can be explained on the bases of continuous chronic microscopical blood loss and obvious gastrointestinal bleeding.

Fortunately, in our case the source of bleeding was large bowel polyps that were accessible for removal. In initial visit, rectal bleeding was shortly stopped following polypectomy. Any polyp with tendency for bleeding was removed in subsequent visits.

Severe and continuous gastrointestinal bleeding especially if it is from small intestine needs blood transfusion and may need an urgent laparotomy and intestinal resection<sup>(13)</sup>. Because the anaemia was apparently mild despite repeated rectal bleeding; he didn't required resuscitation with blood transfusion.

Small intestinal obstruction whether due to intussusception or other causes is possible cause of abdominal pain, and typically occurs in young (second and third decades of life)<sup>(11, 12)</sup>. Some degree of intestinal intussusception with partial bowel obstruction could explain the cause of repeated bouts of abdominal pain in this patient. Although intussusceptions may resolve spontaneously especially in older patients with larger small intestinal dimensions as it was expected in our patient; in rare cases, laparotomy and bowel resection may be performed for repeated or persistent small intestinal intussusception, obstruction especially in younger patients<sup>(13)</sup>. Other related or unrelated causes for abdominal pain couldn't be ignored in this patient.

The number, as well as the size, the location, and time of appearance of polyps may vary from patient to patient<sup>(5,6,9)</sup>. This patient showed large numbers of polyps in large bowel, a single small polyp in duodenum and several at small intestine.

Gastric and duodenal polyps also occur frequently<sup>(14, 15)</sup> and the finding of an ulcerated small polyp at duodenal region during gastroduodenoscopy in this patient was probably explain the cause of several episodes of melena that patient had been suffered from. A recent Review of previous Literatures indicates that cases of malignant changes in

polyps in colon, stomach, duodenum, ileum and jejunum had been reported but generally speaking the malignant changes of gastrointestinal polyps are rare<sup>(16,17,18)</sup>

Association with extra-intestinal tumors like carcinoma of breast<sup>(19)</sup>, ovarian tumors<sup>(14,20)</sup>, carcinoma of pancreas<sup>(21)</sup>, testicular tumors<sup>(22, 23, 24)</sup> and many other diseases like ureteric polyps, polycystic disease of the kidney, thyroid nodules<sup>(25)</sup>, polyps of common bile duct had been recorded and are well recognized rare features in PJS<sup>(15)</sup>.

This patient still had negative screening for cancers during 5 years follow up, but anyhow he is not totally immune as the frequency of such complications is increasing with age<sup>(26)</sup>.

### Recommendations

1. As PJS may be associated with many life threatening complications like severe intestinal bleeding, bowel obstruction, extra-intestinal tumors and risk of malignant degeneration of un-removed or newly formed polyps; it is highly recommended to educate the patients and their family regarding the risk of disease transmission and follow them by regular clinical, endoscopical and occult blood testing to predict any complications that may occur in the future. Ideally the patients should be followed by a team group consists of gastroenterologist, surgeon, oncologists, and even urologist but this is not always happen especially in our localities.

2. Genetic counseling and genetic testing are also important especially if done early but unfortunately we lack such facilities in Iraq at time being.

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## تناذر بوتز جيكرس سبب نادر لنزف اسفل الجهاز الهضمي تقرير عن حالة مسجلة في مستشفى ابن سينا التعليمي في الموصل مع متابعة لفترة خمسة سنوات الخلاصة:

في الموصل لغرض التقييم سنة احيل الى وحدة التنظير الداخلي في مستشفى ابن سينا التعليمي 25 تسجيل حالة لمريض عمره  
الناظوري لأسفل الجهاز الهضمي، لاصابته ب النزف المستقيمي التكراري الحاد منذ عدة اشهر. اثبتت التقييمات السريرية والتنظيرية  
تم متابعة المريض لمدة خمسة سنوات متتالية . والتسجية فيما بعد اصابته بتناذر بوتس جيكر.