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Peutz Jeghers syndrome in pediatric ages: Case presentation

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Abstract

Peutz Jeghers Syndrome is a rare hereditary polyposis, characterized by the presence of polyps in most cases in the gastrointestinal tract and the presence of very characteristic melanic macules, which lead to periodic monitoring of the entire tract. Gastrointestinal due to the high risk of complications such as bleeding, anemia and intussuspection with concomitant risk of intestinal infarction and subsequent intestinal reception and an increased risk of presenting gastrointestinal and extraintestinal cancer. The objective of the article is to present three pediatric patients who were diagnosed and are being followed up at the Institute of Gastroenterology in Cuba.

Introduction

Peutz Jeghers Syndrome (PJS) is a rare, hereditary entity with an autosomal dominant pattern. It was described in 1895 in the scientific society of London by Dr. Connor and rediscovered by Johannes Peutz in 1921 and Harol Joseph Jeghers in 1949. It is caused by a germline mutation of the STK11 gene [1,2]. The incidence is estimated at up to 1 for every 200,000 thousand live births [3]. As far as we know, no prevalence data is recorded in Cuba [4]. In the Institute of Gastroenterology (IGE) of Cuba, 10 patients with the diagnosis of PJS have been reported since 2007 to date [4].

The PJS is characterized by the presence of gastrointestinal polyps mainly and the presence of very characteristic melanic macules although not pathognomonic, which can be observed in periorificial regions, palms and soles of the feet. Polyps are usually identified as hamartomas but their origin is not clear, they are located in any segment of the gastrointestinal tract but most often in the small intestine, they can also be found in the nasal passages, gallbladder, bronchial tubes, bladder and ureter [5].

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In children with PJS, cancer is an extremely rare event, there are few reports of testicular tumors of Sertoli cells [6-8]. Bleeding, anemia and intestinal invagination are the most frequent complications, so monitoring of this syndrome should be performed in order to avoid these complications and involves endoscopic surveillance throughout the gastrointestinal tract. Three children diagnosed in the IGE in Cuba are reported in the last 5 years and are currently being followed up.

Case presentation

Case 1

A male patient with family history of PJS (paternal grandfather, paternal aunt and father), and a personal health history. He was admitted to IGE for the first time in 2013, with 8 years of age, for the investigation of PJS. Clinically, he presented abdominal pain in upper hemiabdomen of slight intensity. The physical examination showed melanic macules on the lips and oral mucosa. During the admission, Upper Digestive Endoscopy (UDE) was performed, where 2 gastric, sessile, 3 and 5 mm polyps were observed respectively, which were extracted with biopsy forceps. In addition, a mild exudative duodenitis was diagnosed. Histologically, polyps were reported as hyperplastic. Ileocolonoscopy was performed, which was normal. The barite study of the small intestine was also normal. The second admission was made three years later, with the asymptomatic patient, for follow-up. In UDE, duodenum polyp and six gastric polyps were reported, all smaller than 1 cm. Polypectomy was performed with a biopsy forceps, and in two of them with a diathermy loop. The histology was compatible with hyperplastic polyps in all of them. Colonoscopy and radiography of intestinal transit were normal. At 12 years of age, anterograde enteroscopy was performed, 3 gastric sessile lesions, between 5 and 8 mm, were observed; polypectomy was performed. It is reported again as hyperplastic polyps. In 2019, at 14 years of age, a barite study of the small intestine and colonoscopy were performed, which were normal.

In anterograde enteroscopy a 3 mm sessile polyp in jejunum and a 6 mm polyp at the Treitz angle level were reported and removed. In the stomach, several sessile elevated lesions were observed in antrum and body, those greater than 6 mm were found in the body. Polypectomy was performed on those larger than 5 mm. The histological study of the duodenum polyp reported Peutz Jeghers polyp (PJ). Currently the patient remains asymptomatic.

Case 2

A younger brother of case 1, with the same family history and personal health history. He enters the IGE for the first time, at the age of 8, asymptomatic. On the physical examination, hyperpigmented macules were observed on the lips, predominantly on the lower lip and oral mucosa, although in smaller quantities than his brother. He also had characteristic macules of the PJS in palms of the hands and soles of the feet. UDE and barite study of the small intestine were performed, which were normal. A rectal polyp was reported on colonoscopy, which was histologically hyperplastic. The second admission was at the age of 10 years, he was clinically asymptomatic. Upper and lower endoscopic studies and the barited study of the small intestine were normal. The follow up was performed at the age of 13 years, and he was asymptomatic. The UDE reported 3 elevated lesions in the gastric body, sessile, less than 1 cm; polypectomy was performed: Histologically, they were gastric hyperplastic polyps. No polyps were observed on Ileocolonoscopy. The patient remains asymptomatic.

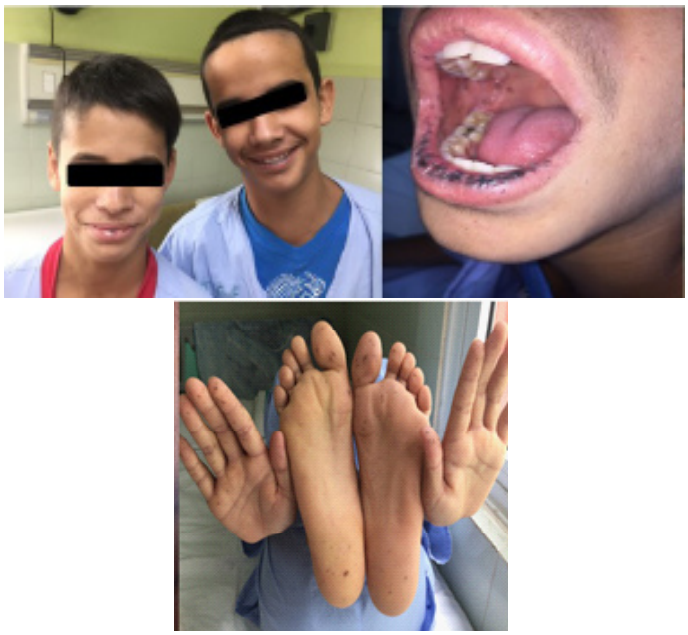

Figure 1: Brothers with PJS (Cases 1 and 2). See perioral macules, on both lips but predominantly on the lower lip, on the oral mucosa, palms and soles of the feet.

Case 3

A 6-year-old female patient without PJS family history, who is studied for chronic anemia and abdominal pain. The physical examination shows the presence of melanic macules on both lips and oral mucosa, and periorbital skin. No other alterations in physical examation. UDE was performed and a more than 3 cm, irregular, polylobulated, sessile, ulcerated lession was observed, approximately 2 cm after the duodenal papilla. It was not possible to remove endoscopically and a biopsy sample was taken. In retrograde exploration, four other polyps were visualized in the stomach, all sessile, one of them in a gastric body and with more than 1 cm, slightly irregular, and polypectomy is performed. The major of the stomach polyps was a PJ polyp as well as the one located in the duodenum, the rest of the stomach polyps were hyperplastic. Ileocolonoscopy and anterograde enteroscopy were performed, and were negative. With this finding the diagnosis of SPJ was made.

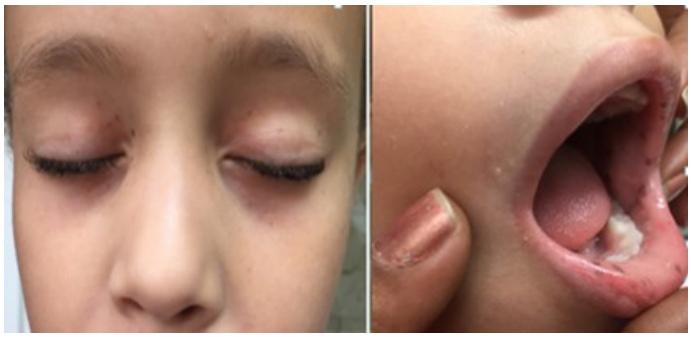

Figure 2: Six year old girl. Periocular macules, on lips and oral mucosa.

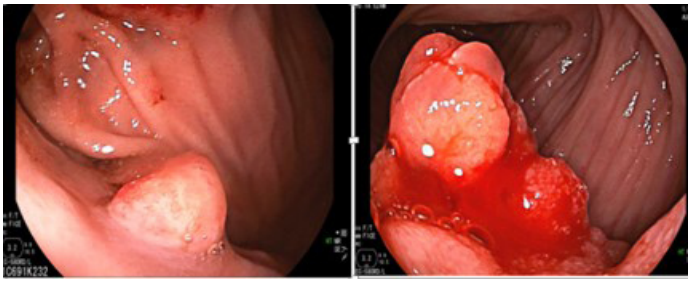

Figure 3: Gastric body PJ polyps (left) and duodenal PJ polyp (right)

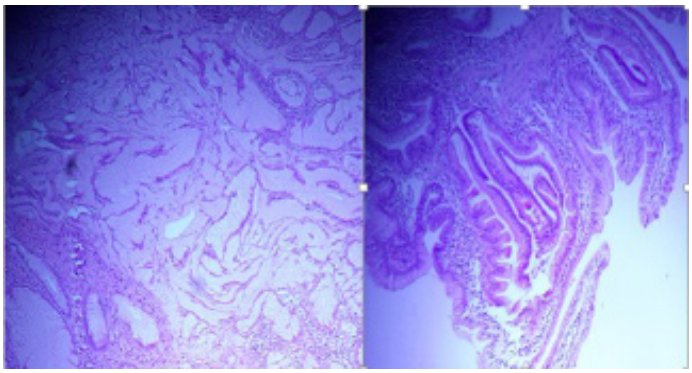

Figure 4: Fragments of gastric PJ polyp (Left) and duodenal PJ polyp (right). H/E 10X

Discussion

JPS is an uncommon genetic disease, with high morbidity and mortality that requires early diagnosis and surveillance throughout life to avoid complications. Family history is reported in 36-50% of patients and no significant difference in terms of sex is reported [5].

It is a disease with phenotypic variability that ranges from asymptomatic patient with melanic mucocutaneous pigmentation, to emergencies due to intestinal invagination. Our three patients had melanic macules on the lips and oral mucosa predominantly on the lower lip and case 1 ad 2 also presented hyperpigmentation in other locations, the literature documents that pigmentation is the most frequent clinical manifestation, but its absence does not exclude the diagnosis [3,5].

The clinical diagnosis of this rare disease is made with one of the following criteria:

1. Two or more histologically confirmed PJ polyps.
2. Any number of PJ polyps detected in an individual with a close relative with PJS.
3. Characteristic mucocutaneous pigmentation in an individual with a family history of PJS.
4. Any number of PJ polyps in a patient with characteristic mucocutaneous pigmentation [3,5].

Peutz Jeghers polyps (PJ) are described as aberrant growths of normal tissue at a specific site, characterized by an arboriform-like smooth muscle covering that arises from the muscular mucosae and extends into the polyp. In polyps larger than 3 cm, pseudoinvasion may occur, in which the epithelium is forced into the intestinal wall. This event occurs particularly in ID and is a cause of complications. Mucinous cysts are frequent findings in polyps.

In one of the three children, PJ polyps were not diagnosed. Family history and the presence of melanic macules allowed the diagnosis. All three also presented gastric hyperplastic polyps. It is reported in the literature that most patients have polyps, [10] and oth[er locations such as nasal passages, ureter, bladder, bronchi, vagina and biliary tract have been documented. A study published in Mexico, reported all patients with polyps and the most affected location was the duodenum [5].

A peak incidence of intussusception between 10 and 30 years of age is described, with first episodes between 1 and 5 years [3,5]. Only one patient had a large polyp in the small intestine in the first endoscopic study, so the risk of complication is high. In the 2 patients with a family history, the endoscopic examination was not necessary before the age of 8 years because they were asymptomatic. The 3 children were diagnosed before the age of 10. As suggested in the literature, the endoscopic surveillance should be offered early enough to perform polypectomy and avoid surgeries with potential bowel loss [3,9]. Patients who do not have a family history are usually diagnosed in the course of a complication. In a study in the IGE, more complications were documented in patients diagnosed at earlier ages, without a family history [4]. Rodríguez Lago et al. Reported complications in all patients [5]. This documented the high risk of complications in patients with the syndrome.

In the relatives of patients with PJS or with a suggestive clinic, genetic studies should be to de novo mutations or low penetrance variants [5]. A negative study does not exclude the diagnostic possibility, on the other hand, a positive study would be sufficient for the genetic diagnosis independently of the symptoms and would guide the need for gastrointestinal surveillance [3,5]. In the described patients it was not possible to carry out a genetic study.

The endoscopic examination includes UDE, Enterorresonance, Endoscopic Capsule and Ileocolonoscopy [3,11]. In asymptomatic patients with a family history these should be performed after 8 years and every 2 or 3 years or earlier, if clinical manifestations appear. In the three children, the follow-up has been individualized. Surgical intervention is probably necessary in case 3, if endoscopic polypectomy would not be possible due to the size of the polyp and the possible complications described in those patients with polyps larger than 3 cm located in small intestine.

Polypectomy is not required to reduce the risk of cancer, as these polyps do not undergo malignant changes in childhood. Extra-digestive tumors are also rare, although Sertoli tumor has been described in children, which appears at very early ages, mostly with a benign course. Clinical surveillance includes looking for symptoms and signs derived from polyps, such as anemia, digestive bleeding, abdominal pain, and hormonal production, such as precocious puberty, gynecomastia, etc. On physical examination, palpation of the testis should be performed in order to increase size and the presence of calcifications. Palpation of the testis should be performed annually and testicular ultrasound from 4 years, every 2 years [3].

The PJS is a disease with a high risk of complications and although it is not frequent, it leads to frequent monitoring of the symptoms and performing endoscopic procedures for those in whom the syndrome is suspected and patients already diagnosed, in order to avid lossing important bowel segments and death.

References

1. Zhao HM, Yang YJ, Duan JQ, Ouyang HJ, Liu L, et al. Clinical and genetic study of children with Peutz-Jeghers syndrome identifies a high frequency of STK11 de novo mutation. Journal of pediatric gastroenterology and nutrition. 2019; 68: 199-206.

2. Daniell J, Plazzer JP, Perera A, Macrae F. An exploration of genotype-phenotype link between Peutz-Jeghers syndrome and STK11: A review. Familial cancer. 2018; 17: 421-427.

3. Latchford A, Cohen S, Auth M, Scaillon M, Viala J, et al. Management of Peutz-Jeghers Syndrome in Children and Adolescents: A Position Paper From the ESPGHAN Polyposis Working Group. J pediatr gastroenterol nutr. 2019; 68: 442-452.

4. Matos IA, Oliva SED, Villaurrutia YdCV, Bacallao EG, Moreno LML. Sandrome de Peutz-Jeghers, experiencia de casos en el Instituto de Gastroenterología. 2019.

5. Lagos FR, Guerola JS, Martínez IR, Franch PC. Registro y seguimiento clínico de pacientes con síndrome de Peutz Jeghers en Valencia. Revista de Gastroenterología de México. 2019.

6. Álvarez JD, Velásquez C, Niño JP. Manifestaciones urológicas del síndrome de Peutz-Jeghers: Presentación de 2 casos y revisión de la literatura. Urología Colombiana. 2016; 25: 102-108.

7. Meserve EE, Nucci MR. Peutz-Jeghers syndrome: Pathobiology, pathologic manifestations, and suggestions for recommending genetic testing in pathology reports. Surg pathol clin. 2016; 9: 243-268.

8. Ravishankar S, Mangray S, Kurkchubasche A, Yakirevich E, Young RH. Unusual sertoli cell tumor associated with sex cord tumor with annular tubules in peutz-jeghers syndrome: Report of a case and review of the literature on ovarian tumors in peutz-jeghers syndrome. Int j surg pathol. 2016; 24: 269-273.

9. Blanco-Velasco G, Hernández-Mondragón O, Blancas-Valencia J, Paz-Flores V, Fuentes-Hernández D, et al. Seguridad y eficacia de la polipectomía en intestino delgado utilizando enteroscopio asistido por balones en pacientes pediátricos con síndrome de Peutz-Jeghers. Revista de Gastroenterología de México. 2018; 83: 234-237.

10. Muñoz G, Mariel P, López Padilla SO. Síndrome de Peutz-Jeghers. Acta medica Grupo Ángeles. 2018; 16: 78-79.

11. Al-Azzawai Y, Holzwanger E, Cave DR. The Utilization of Video Capsule Endoscopy in Patients with Peutz-Jeghers Syndrome. 2017.