

Peutz-Jeghers Syndrome

Case Report*

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Introduction

The Peutz-Jeghers Syndrome was first reported by Peutz in 1921 and further elaborated upon by Jeghers in 1949. The syndrome is characterized by gastro-intestinal polyposis with melanin spots of the lips, digits and buccal mucosa. (Fig. 1) The condition is familial and is transmitted by a simple Mendelian dominant gene. There are conflicting views as to the frequency of malignant change and the true histological nature of the polyps found in patients with this condition. The patients encountered with polyposis due to Peutz-Jeghers variety were first reported to have small bowel involvement. As more cases were found the polyps have been noted to occur from the mouth to the anus. It is also noteworthy that in Peutz's original cases one of his patients had nasal polyps.²⁻³ Malignancy has been reported sporadically in patients with

Peutz-Jeghers Syndrome. These malignancies have been found in the stomach, duodenum, small bowel, and the colon.⁴ An unusual case of carcinoma of the stomach with metastases to lymph nodes in a case of Peutz-Jeghers Syndrome has been reported by Payson.⁵ The malignant potential for small bowel polyps is low according to Dormandy.¹

The typical patient with Peutz-

Jeghers Syndrome usually presents with signs of small bowel obstruction caused by intussusception. Anemia has been reported in one-third of the cases. A conservative approach to eradication of the polyps of the small bowel is indicated because of the low malignant potential¹, though a more aggressive approach is indicated when polyps are found in the stomach, duodenum and the colon. The occur-

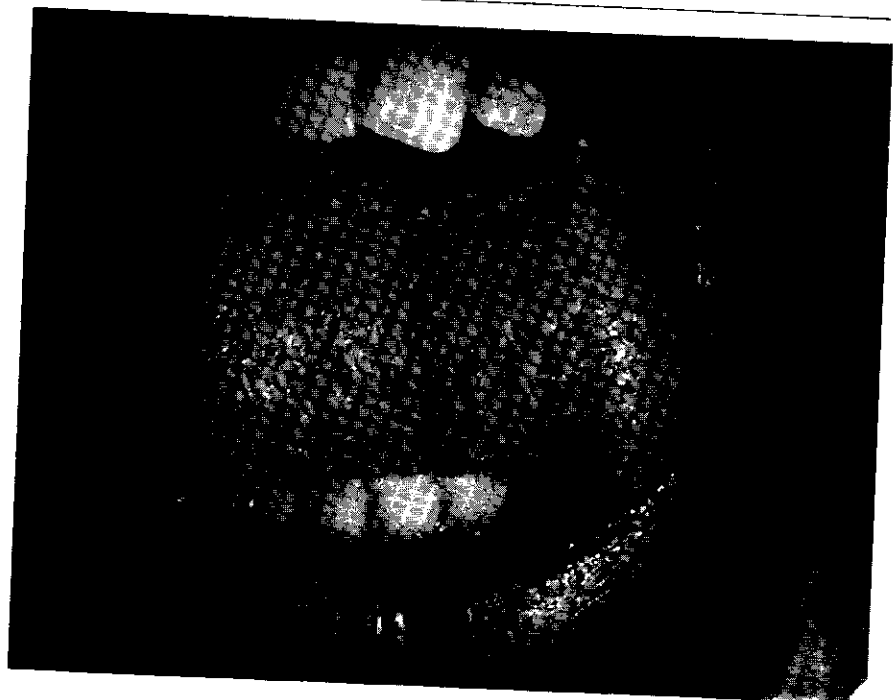


FIG. 1. Pigmentation of the lip and the circumoral region.

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PEUTZ-JEGHERS SYNDROME

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rence of ovarian tumors with the Peutz-Jeghers Syndrome is well documented.⁶⁻⁹ The Peutz-Jeghers Syndrome is frequently associated with other congenital abnormalities, including Polycystic disease of the kidney. These patients usually have an abnormally long "Y" chromosome.⁷ Other congenital defects such as cardiac defects, aneurysms of the cerebral vessels, cysts of the liver, spleen, lungs and urinary bladder polyps have been noted in patients with Peutz-Jeghers Syndrome.⁸ Documentation of sickle cell anemia or sickle cell trait in Peutz-Jeghers Syndrome has not been previously alluded to in the literature, and its significance may be only casual in that a significant number of black patients carry the congenital defect of sickle cell disease and trait. More important than the relationship of sickle cell anemia to intestinal polyposis is the probability that the true nature of the anemia may be overlooked in a patient with abnormal hemoglobin if the intestinal tract is not examined radiologically.

When one encounters such a patient with Peutz-Jeghers Syndrome it is well to keep in mind that numerous other congenital defects may be present. There has been considerable controversy as to the true histological nature of the polyps encountered in the syndrome. The older literature initially described these polyps as being adenomatous polyps, however it is generally agreed now that the polyps are hamartomatous.⁴⁻⁹ The melanin deposits of the skin and the buccal mucosa are non-specific and have been previously described.⁷

Case Report

A 25-year-old black male was admitted to the hospital on 11-27-67 because of easy fatigability, weakness and anemia. Physical examination revealed the typical mucocutaneous pigmentation of Peutz-Jeghers Syndrome with the pigmented areas ranging in

size from 1-3 mm. The lips, the nasolabial folds, nostrils and eyelids showed the typical pigmentation. Pigmentation was also noted at the ends of the fingers but not the toes. There was marked pigmentation of buccal mucosa. It was also striking that the patient appeared much younger than his stated age of 25 years. Physical examination otherwise was essentially unremarkable. The patient was sigmoidoscoped and several polyps which appeared grossly to be pedunculated adenomatous polyps were noted at 10 cm., 15 cm., and 22 cm. The hemoglobin was 9.6 gm., hematocrit was 34%. Reticulocytes 6.2%, Serum Iron 35 mg., Serum Iron Binding Capacity 398 mg., and A-S hemoglobin was demonstrated an electrophoresis.

(Figure 2.) On 12-7-67 all polyps within the view of the sigmoidoscope were excised and numerous mucosal excrescences were cauterized. Barium enema confirmed the presence of polyps throughout the colon. Upper Gastro-intestinal series and small bowel series were normal. The patient had selective mesenteric arteriography which suggested a blush in the region of a polyp in the cecum. On 12-14-67 the patient has a colectomy with ileoproctostomy, leaving approximately 10 cm. of rectum. At the time of surgery the stomach and the entire small bowel were palpated for evidence of polyps. No polyps were found except in the terminal ileum which was resected along with the colon. Postoperatively the patient did very well. He was discharged on the 10th postoperative day and has continued to do well. An effort was made to examine other members of his family who were reported to be asymptomatic. Two members of the family were contacted but refused examination (Fig. 2, 3, and 4).

The specimen submitted for pathological examination consisted of 4 colonic polyps, a polyp of the terminal ileum, the entire colon, the appendix, and a 7 cm. segment of the terminal



FIG. 2. Large pedunculated polyp of colon.

ileum. The mucosa of the colon, especially in its distal portion, was carpeted with innumerable polyps ranging in size from minute pinhead size mucosal excrescences to large 2 X 1 cm. pedunculated polyps. Five small polyps were present on the mucosa of the ileocecal valve. None of the polyps demonstrated ulceration or evidence of malignant degeneration grossly.



FIG. 3. Polyps of varying sizes of colon.

Microscopically, the tumors appeared to be adenomatous polyps demonstrating a central supporting connective tissue stroma with a muscularis mucosa covered by an almost normal appearing mucosa. The component cells were tall columnar and generally deeper staining than the normal mucosal epithelium with absence of mucus formation in many areas. Microscopic evidence of malignancy was lacking in all polyps examined. The ileal polyps presented an essentially similar histological picture, except the base of the lesion was covered by normal ileal type of mucosa. No Paneth cells or bands of smooth muscle fibers were present.

Discussion

Peutz-Jeghers Syndrome is one of the genetically related diseases of the gastro-intestinal tract with mucosal and skin pigmentation. The incidence of malignancy is low but has been reported sporadically. The disease more commonly presents with signs of obstruction and anemia. A conservative approach is warranted in treating the small bowel lesions because of the low malignant potential.

The gastro-intestinal polyps of Peutz-Jeghers Syndrome are thought to be hamartomatous malformations⁴ composed of a mixture of tissues indigenous to the bowel wall. In this regard, they are non-neoplastic and therefore are not premalignant. The polyps of the present case however, can not be histologically differentiated from the common neoplastic adenomatous polyps of the large bowel.

If it is accepted that the typical circumoral and mucosal pigmentations, together with polypoid adenomatosis of the gastro-intestinal tract constitutes Peutz-Jeghers Syndrome, then it must be assumed that the histogenesis of the gastro-intestinal lesions varies in different cases, the polyps being hamartomatous in some patients and true neoplasm in others;

as in the present case.

The low malignant potentiality of the small bowel lesion then implies a low tendency for this portion of the gastro-intestinal tract to develop carcinoma. Possibly the environment of the small bowel is not conducive to, or even counteracts, development of malignancy.⁸ Of course, it is possible that in this case the pigmentation is unrelated to gastro-intestinal adenomatosis. This seems most unlikely in view of the clinical picture, typical pigmentation in conjunction with polypoid adenomatosis of the small and large bowel.

Multiple congenital defects have been reported in patients with Peutz-Jeghers Syndrome. The relationship to sickle cell anemia or sickle cell trait may not be significant, but in any patient it is important to assess the true nature of the anemia. The patient in this report tolerated surgery well, gained weight and is no longer anemic.

Summary

The Peutz-Jeghers Syndrome is characterized by mucocutaneous pigmentation and intestinal polyposis. The disease is transmitted by a Mendelian dominant gene. The kindred of such a patient should be examined. The polyps may be hamartomatous or adenomatous polyps. The disease may present with obstruction or anemia. Malignancy when found rarely involves the small bowel, and a conservative approach should therefore be used in treating the small bowel polyps. Malignant change in the stomach and duodenum has been occasionally reported. The Peutz-Jeghers Syndrome is frequently associated with other congenital abnormalities.

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FIG. 4. Blush on arteriography in region of polyps of cecum.