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Peutz-Jeghers Syndrome
Report of one case associated with Gastrointestinal Carcinoma

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The Peutz-Jeghers syndrome is a familial disease characterized by pigmented spots on the lips and oral mucosa and intestinal polyposis with an autosomal dominant inheritance.

The pigmented spots are located on lips,perioral area, and less commonly on the palms of the hands,soles of the feet, interdigital web spaces and perinasal or orbital area. The lesions are usually dark brown to black, measure 2 to 5 mm in size, and are flat and asymptomatic. (fig. 1) Histologically an accumulation of melanin pigment with increased number of melanocytes. The cutaneous lesions may appear later and may fade with advancing age. The occasional absence of melanin spots is well documented (3-7).

Intestinal polyposis associated with this disease is rarely found in infants but appears during puberty and adolescence. Histologically, the polyps are hamartomas.

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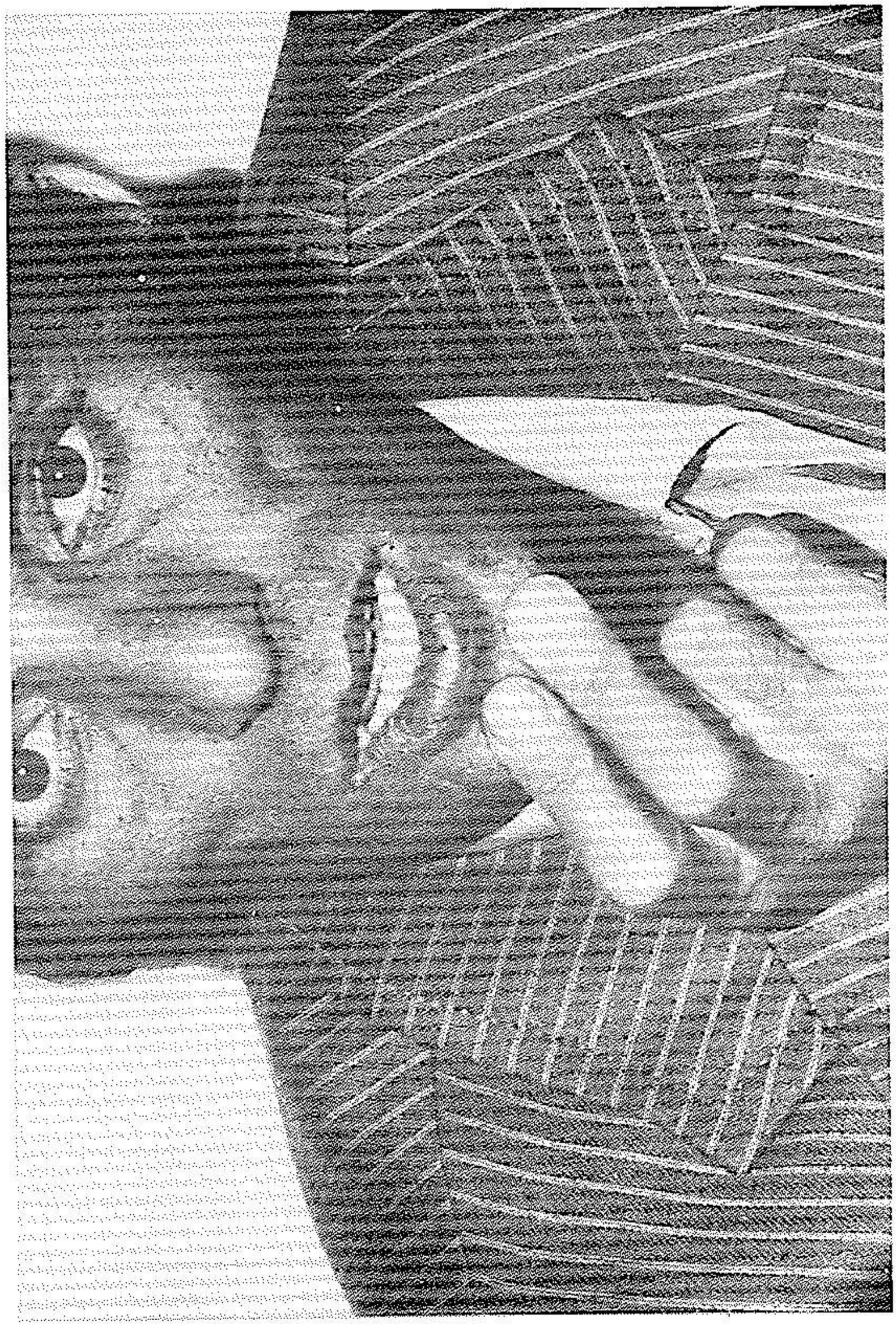
The polyps are distributed throughout the gastrointestinal tract, with the heaviest incidence in jejunum.Although these polyps are widely regarded as hamartomas and



rarely undergo malignant change, they have been reported to be associated with carcinoma of duodenum, stomach,small intestine, colon, ovary, tonsils, and villous adenoma of the pancreatic duct (2-8-10-13-14) .

In 1979 Cochet, B.et al. reported two case of Peutz-Jeghers syndrome associated with gastrointestinal carcinoma of malignant changes of hamartomatous polyps(4).

This report is another case of Peutz-Jeghers syndrome with gastrointestinal carcinoma. Histologically evidence favouring malignant changes of hamartomatous polyps is provided.

Case Report:

A 36 year-old man with melanin pigmentation of lips and buccal mucosa was admitted as an emergency to Valiasr General Hospital in April 1981. He gave on 2 months history of upper abdominal pain radiating to the back.Eight years before, lamporotomy was performed for intestinal obstruction due to intussusception. Mucocutaneus pigmentation was noted.(Fig.1). At surgery, 8 polyps were removed. The histological picture was typical of hamartomatous polyps.

There was significant family history of Peutz-Jeghers syndrome,his two sons and uncle have mucocutaneous pigmentation without any symptom. (Fig.2-3).

Examination during his present admission revealed a thin icteric man with temperature of 39.5.degree of centigrade. There was generalized abdominal tenderness with guarding. Liver function tests showed features of both bile duct obstruction and hepatocellular damage. A provisional diagnosis of ascending cholangitis was made and he was treated with intravenous fluids and antibiotics.

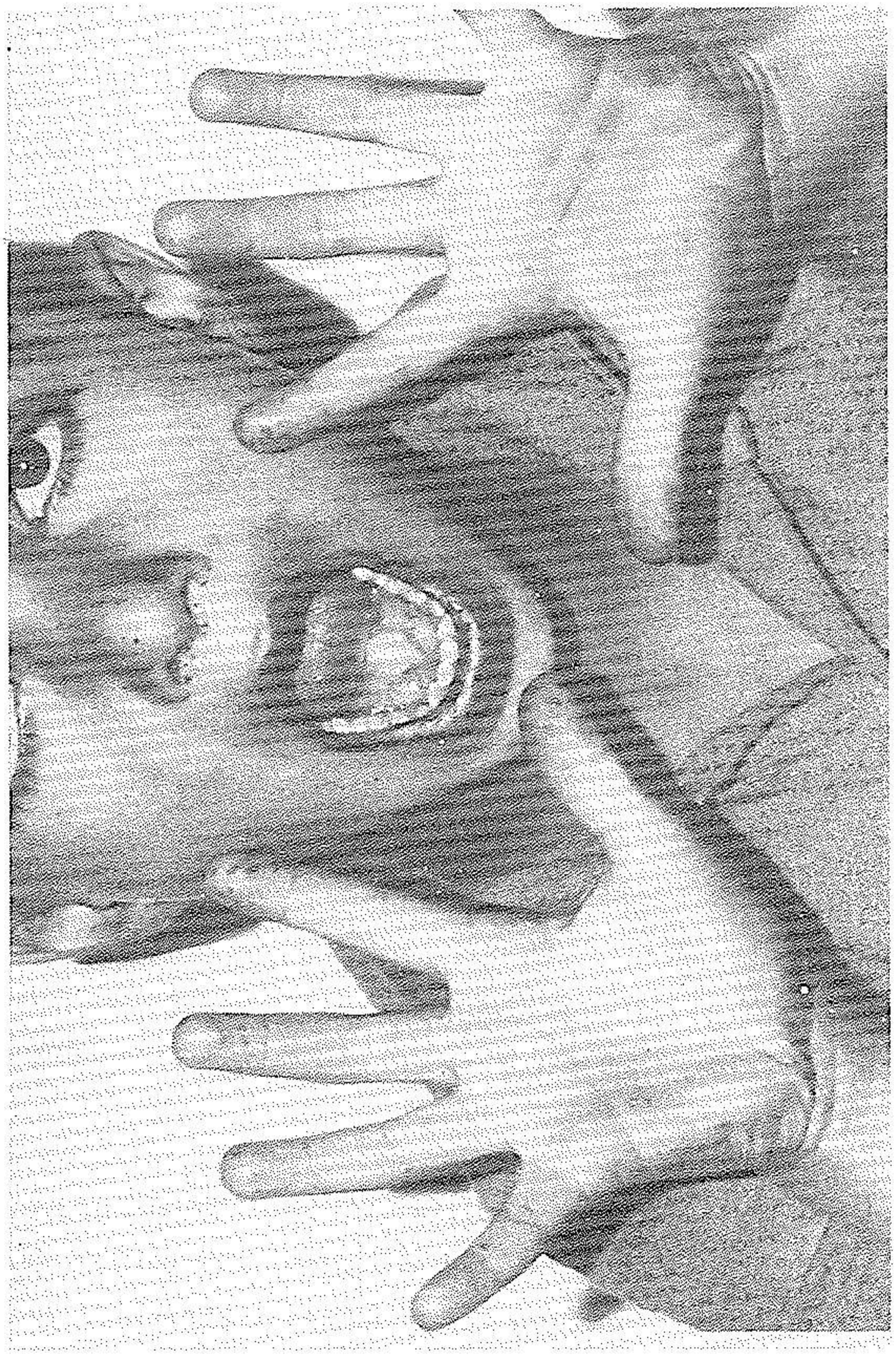


Fig II

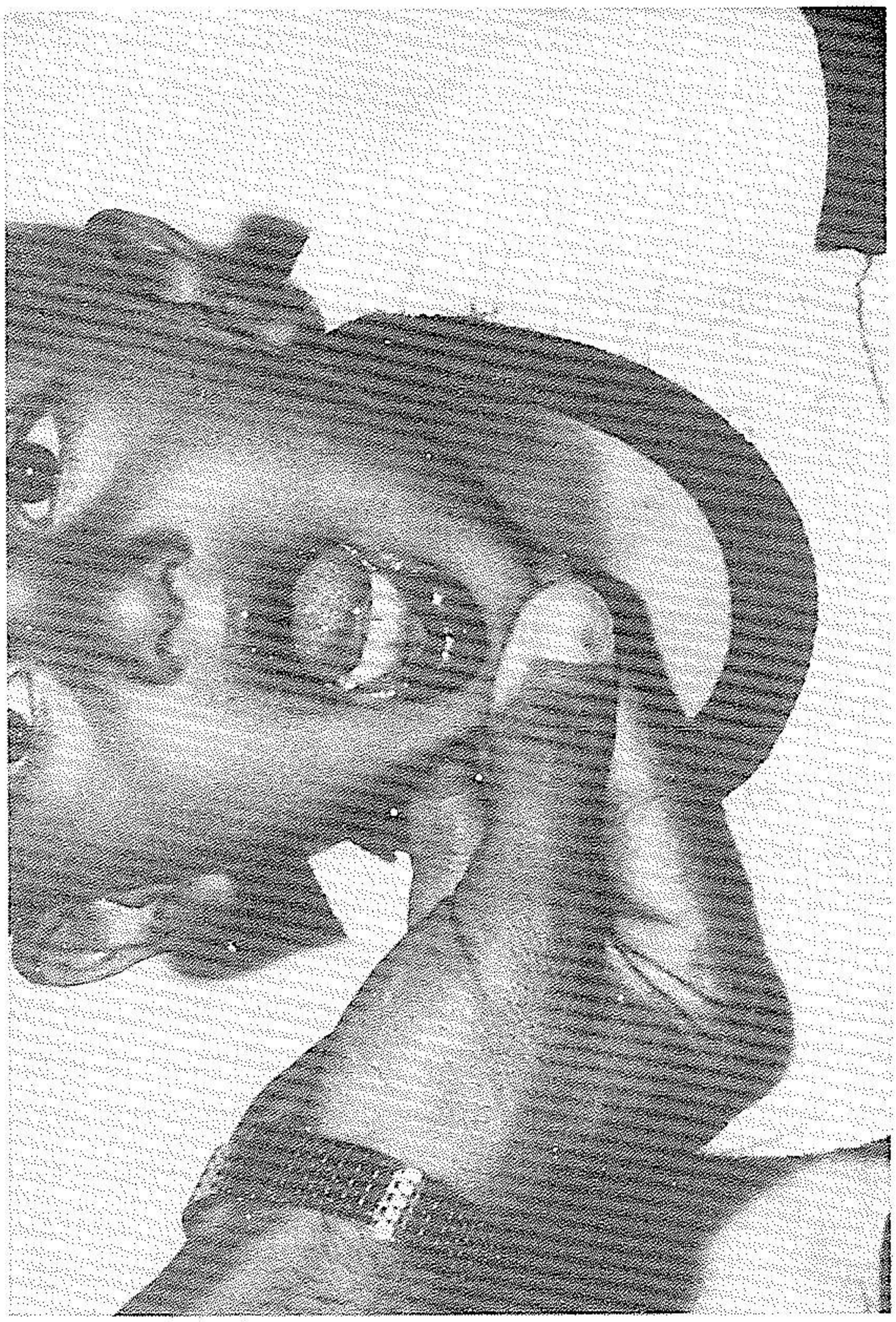


Fig III

Liver scan was normal. His jaundice deepened and a laparotomy was performed.

Laparatomy showed an irregular mass with some Polypes in the duodenum. Multiple tumours were palpable within the small and large bowel. Biopsy were taken from the mass at the duodenum and about 8 polyps were taken from duodenum and jejunum. Choledocojejunostomy(Roux en Y) and Gastrojejunostomy were done.

Patient did well postoperatively and was discharged on 14th postoperative day.

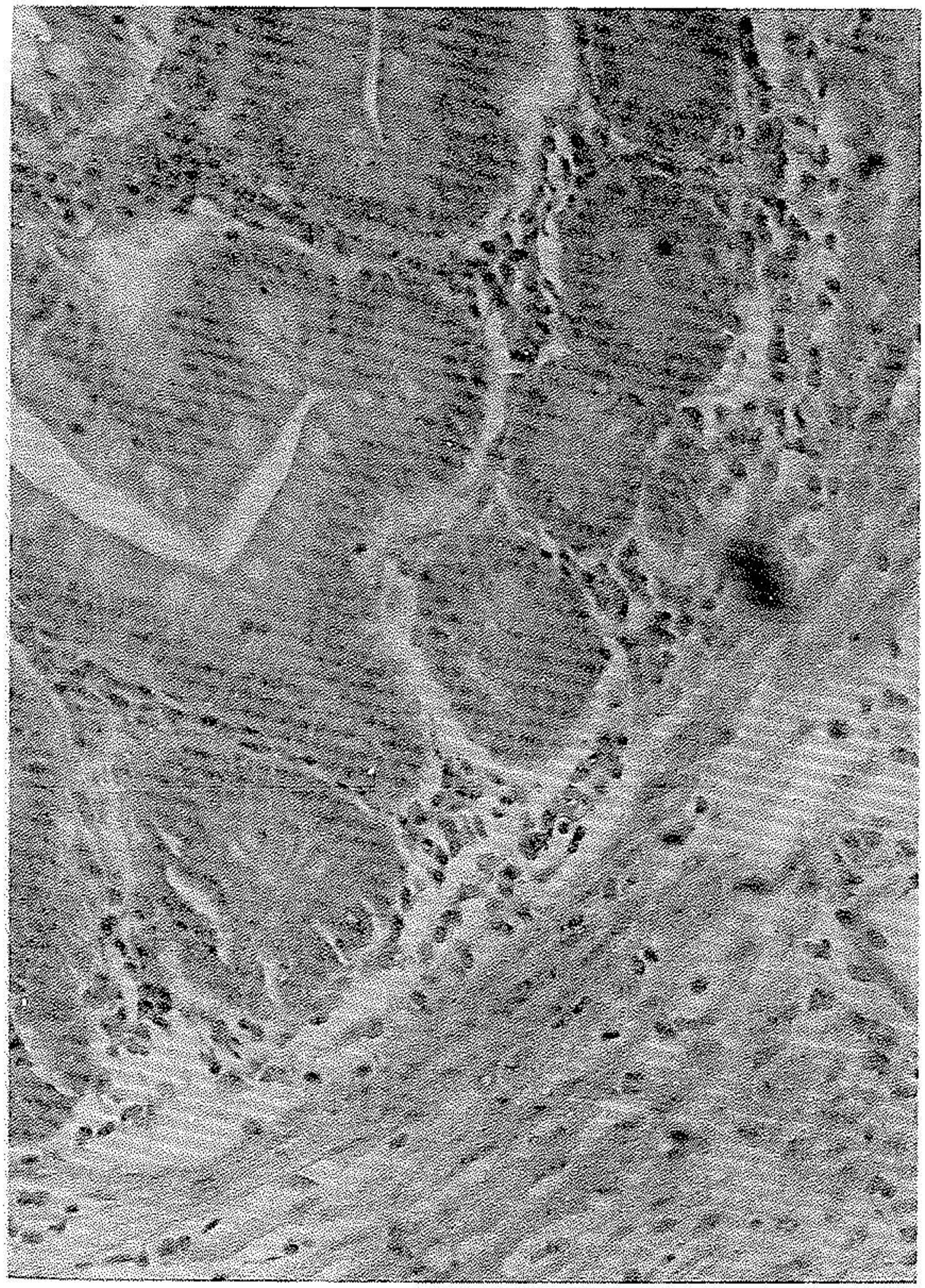
GROSS PATHOLOGY

The specimen was received in 2 containers labeled. 1) Duodenum 2) Jejunum, consisted of multiple fragments of tissue, the larger 2 cm in diameter, the mucosal surface had either a smooth surface or more often a villous appearance.

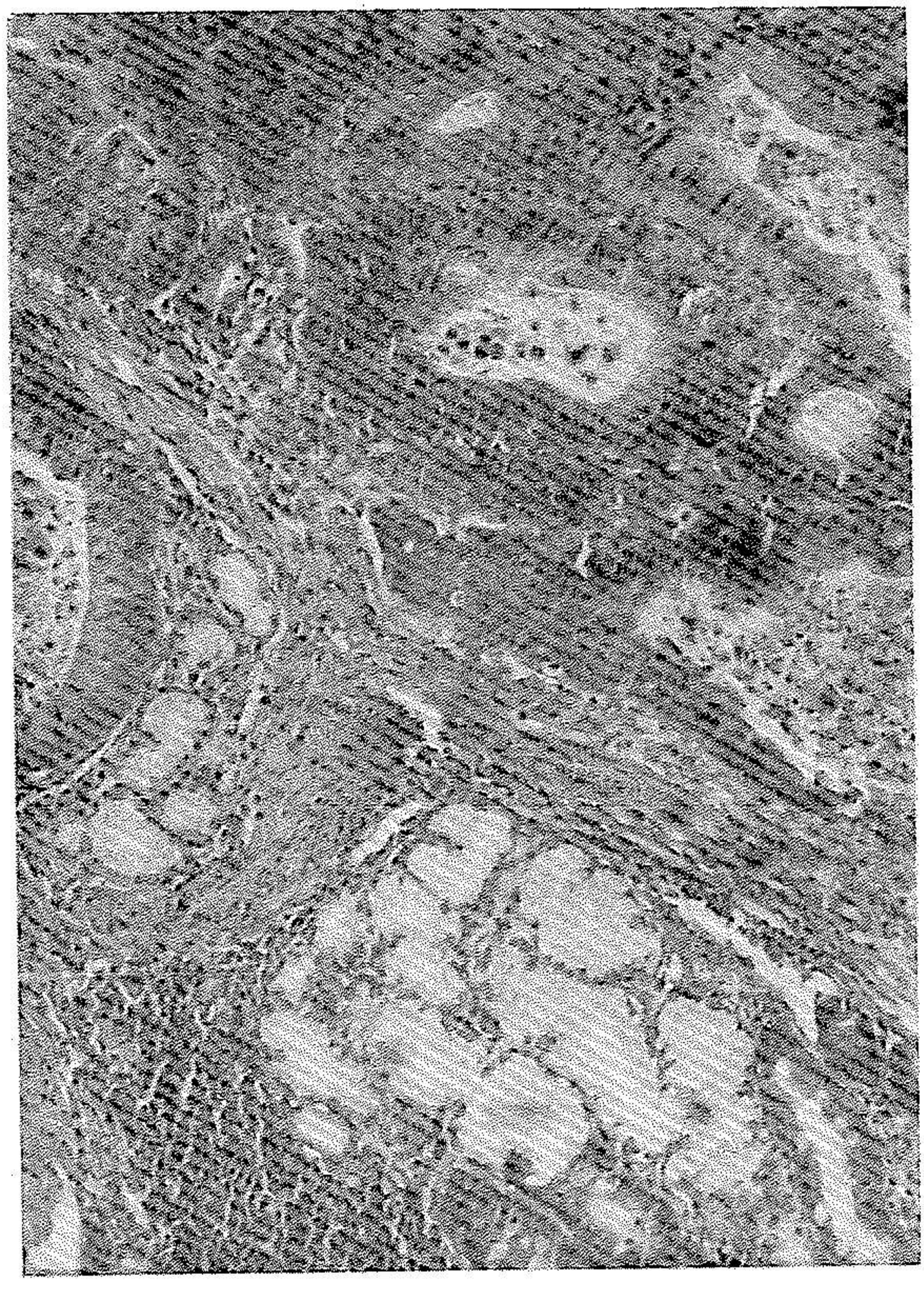
Microscopy

The histological appearance was that of the Peutz-Jeghers polyps, with essential feature a branching core of muscular tissue derived from the muscularis mucosae, the branches become thinner and even truly disappear ass they reach the periphery of the polyp. Each branches was covered histologically by a normal epithelium with a normal lamina propria, with paneth and endocrine cells in their normal sites at the base of the crypts(fig.4)

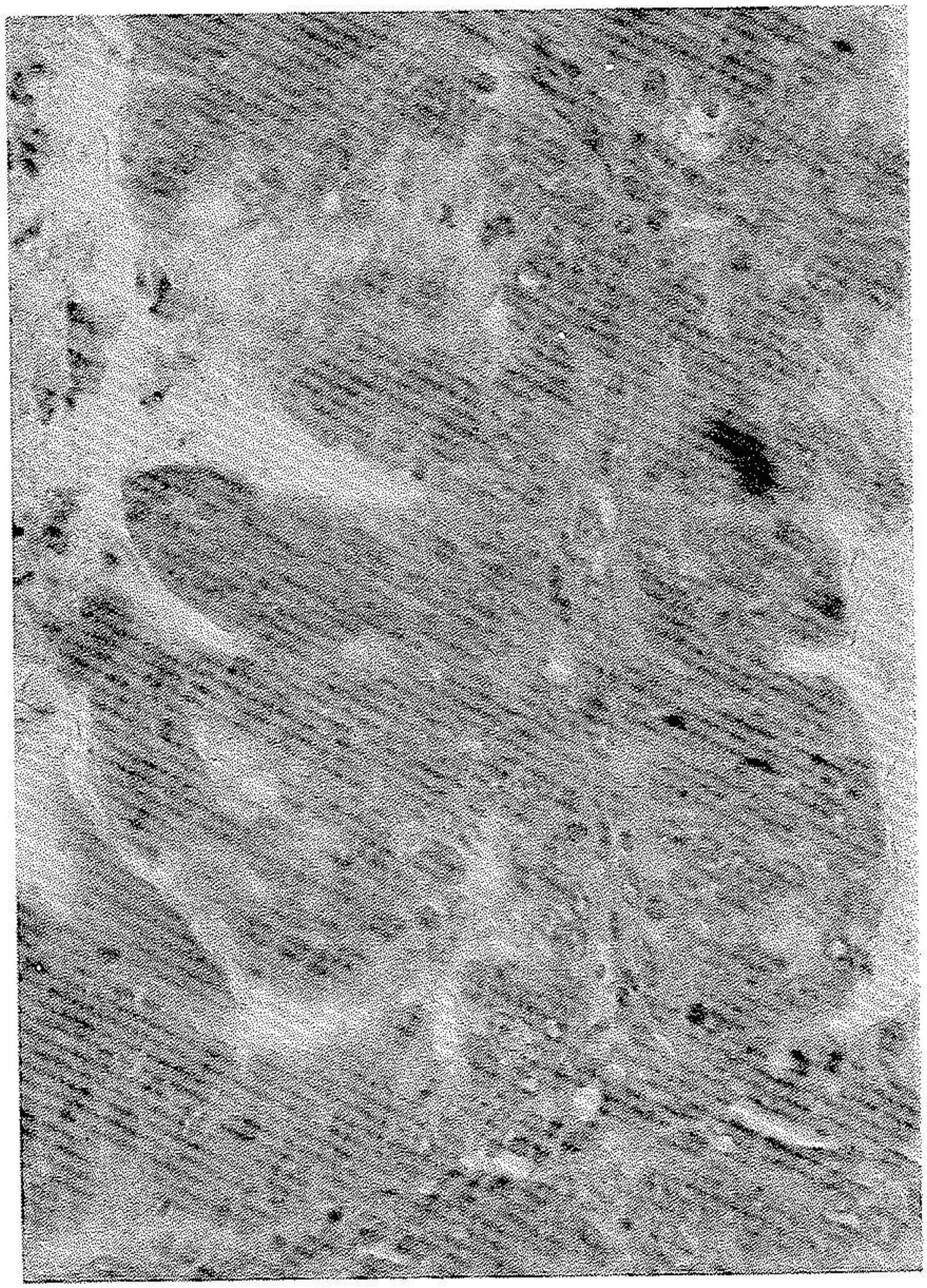
Atypical epithelial proliferation loss of polarity and high mitotic index was found in most of the polyps, but in the duodenal ones invasion of the stalk, invasion of the true muscle layer was observed (fig.5-6-7).



4. Portion of polyp showing Intestinal Glands and Smooth Mucosae fibers. (Benign)



5. Portion of Duodenal Polyp showing at one side Brunner's Glands; at the opposite atypical glands with piling of surface epithelium, and high mitotic index.



6. High Magnification of areas of malignancy in duodenal polyp.

7. Invasion of stalk in duodenal Peutz-Jeghers polyp.

The diagnosis was Peutz-Geghers syndrome with adenocarcinomatous transformation.

Discussion

In 1896 Sir Jonathan Hutchinson reported on twin girls with melanin pigmentation on their lips. In 1919 Weber reported that one of the girls had died of intestinal intussuception at age twenty years. In 1921 Peutz described seven patients, representing three generations of one family, who had intestinal polyposis associated with the melanotic pigmentation of the lips and oral mucosa. Finally, Jeghers et al in 1949 demonstrated that the disease was carried as a simple Mendelian dominant characteristic (11)

The clinical course of Peutz-Jeghers syndrome is characterized by asymptomatic periods interspersed with complications such as intermittent cramping abdominal pain, intussusception often leading to frank intestinal obstruction, and hemorrhage which is often occult. The presenting symtoms of patient with a small bowel obstruction are quite typical, including colicky pain, nausea, and persistent, often projectile, vomiting. Commonly,a sausage-like mass can be palpated in the abdomen. X-ray films confirm the small bowel obstruction, but discrete lesions of the small bowel are readily missed during a routine small bowel series unless the examination is modified and specifically conducted for the detection of localized lesions(5).The treatment of small bowel polyps should aim at removing the offending polyps through multiple enterotomies. preserving as much small bowel as possible to avoid the development of the short gut syn-

drome (11).

The question of malignancy in Peutz-Jeghers syndrome is not completely resolved. Bailey in the early 1950s, reviewed the sixty-seven cases reported to that time and found a 24 per cent "malignacy" rate (11). Later Bartholomew et al described the hamartomatous nature of the polyps and concluded that the characteristic branching of the smooth muscle and the frequent mitotic figures were not malignant components. However,scattered reports have appeared of patients dying of gastrointestinal malignancies, some at a very young age (14).In 1969 Dozois et al reviewed the world literature and found 321 cases of Peutz-Jeghers syndrome with eleven malignancies by histologic criteria, eight of which had metastasized.Only three cases was there carcinoma arising in the Peutz-Jeghers polyps(6). In 1974 Reid found fourteen documented cases of metastatic carcinoma in patient with peutz-Jeghers syndrome; the location of tumors was primarily the stomach and duodenum (9 of 14 patients). He concluded that there was a 2 to 3 per cent risk of developing carcinoma, although not necessarily from the hamartomatous polyps per se 12) . The risk is not great enough in the small bowel to indicate prophylactic polypectomy. However, there are reports of coincident adenomatous polyps in The stomach and colon,and development of carcinoma in-these areas may be secondary to adenomatous polyps masked by the presence of the benign hamartomatous polyps (11).

SUMMARY

The peutz-Jeghers syndrome is characterized by an association of gastrointestinal polyposis with melain spots on oral mucosa, lips, and skin. This symdrome is inherited as a simple mendelian autosomal dominant trait. Intussusception is by far the most common complication. Although these polyps are widely regarded as hamartomas and rarely undergo malignant change, they have been reported to be associated with carcinoma of gastrointestin and ovary.

In the case reported here, the cancer developed from hamartomatous polyps.

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