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Epsilon Sign of the Duodenum as a Possible New Sign of Henoch's Purpura

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ヘノツホ紫斑病の新しい徴候としての十二指腸の E-徴候

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Schönlein-Henoch's purpura は、小児科外来ではときどき経験する疾患であるが、放射線科では出血斑を見るまでに訪れるのは非常に少なく、したがってこれに関するレ線所見にも乏しい。著者

は出血斑出現前にレ線検査を行なった1例を経験したのでこれを報告し、紫斑病の新しい徴候として十二指腸下行脚のE-徴候を提唱したい。

The Schönlein-Henoch syndrome has been recognized as an allergic entity associated with abdominal symptoms due to pathologic bleeding of the small bowel. The roentgenologic findings in the small bowel were described by Whitmore and Peterson in 1946. Since then, similar abnormalities such as dilatation, hypertonicity, segmentation, and coarsening and obliteration of the mucosal pattern of the small bowel have been described by a number of observers.

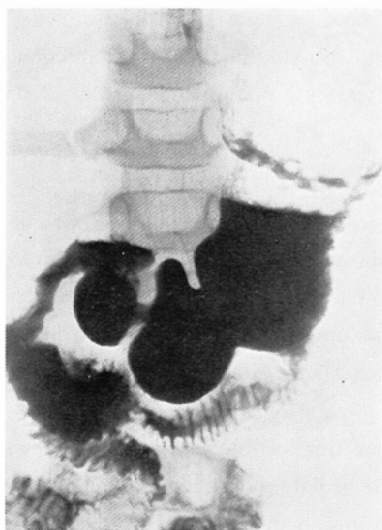
The definitive diagnosis of purpura abdominalis is not a matter of merely academic interest; it is essential for proper management of patients with acute abdomen. The question now arises as to whether there is any evidence to improve the accuracy of roentgen diagnosis or if possible, the accurate diagnosis can be made on the basis of the roentgen findings alone.

The radiologist, using as his diagnostic tool the x-ray pictures of the digestive tract, has a great role to play in contributing to the final diagnosis and avoiding unnecessary and superfluous taking of x-ray pictures to pick up useful information on the cause of intestinal bleeding.

A search of the literature with regard to the roentgenographic appearance of Henoch's purpura indicates that the abnormal roentgen pattern of the small intestine not only precedes the onset of the skin rash but it disappears with clinical recovery. However, roentgenograms of Henoch's purpura are rarely seen in x-ray departments for two reasons. The first is that we have a great lack of certain knowledge concerning roentgen features of Henoch's purpura. Secondly, the diagnosis of Henoch's purpura is notoriously difficult both clinically and radiologically before purpura appears. Therefore, the accurate diagnosis of Henoch's purpura requires coordination of the clinical and roentgenographic findings.

The purpose of this paper is to demonstrate the pathologic changes in the digestive tract and to attempt

Fig. 1 Henoch's purpura with Epsilon sign.



to add them to the roentgenologic concept governing the diagnosis of Henoch's purpura.

Report of a Case

N.T., a 7-year-old girl, was brought to the hospital in critical condition because of unconsciousness of 30 minutes' duration. The patient was unable to give a satisfactory history and the information available was provided by her mother. This episode lasted 2 hours after which she complained of abdominal pain which was severe enough to necessitate admission to the hospital on the same day. Four days before the present admission she noted the onset of an abdominal pain associated with vomiting. Four days after onset of this illness the patient complained of swelling in the forehead believed to be due to be bitten by a mosquito. Shortly before her admission to this hospital she was referred to the roentgenologic service for examinations of the digestive tract.

On that day morning of her admission an upper gastrointestinal study revealed the Epsilon configuration in the second portion of the duodenal sweep with stereotyped mucosal pattern just proximal to the ligament of Treitz. The changes in the upper gastrointestinal tract are summarized as follows:

1. Delay in transit of barium into the duodenal bulb.
2. Epsilon sign in the second portion of the duodenum.
3. Loss of normal mucosal pattern displaying a serrated outline due to mucosal edema. The pattern simulates a "picket-fence".

Course in the hospital:

On the second hospital day the patient noted the onset of abdominal pain associated with edema over her face, mouth and head. On the fourth day petechiae were observed in the elbows and knee joints and to a marked degree over the hands and legs and disappeared on the 17th hospital day. About 4 days after admission gradually increasing edema of the joints had been noted.

Laboratory findings: The hemoglobin was 87% (Sahli), the red blood cell count was 4,360,000 per cu.m m.. and the white blood cell count was 18,000. A peripheral blood smear showed 1% staff

leucocytes, 81% segmented polymorphnuclear leucocytes, 2% eosinophils, 5% monocytes, and 11% lymphocytes.

The serum protein was 6.0 g/dl with albumin of 3.2 g/dl and globulin of 2.8 g/dl. The total calcium was 4.7. Alkaline-phosphatase was 4.0 B.U. Aslo test was 1250 units/ml. CRP showed a two plus reaction. SGOT was 3.

Discussion

Epsilon sign, which to my knowledge is a possible new one of Henoch's purpura, may well be considered encouraging. This confirms the potential value, in radiological diagnosis and differential diagnosis from the other acute abdomen. The value of the gastrointestinal examination in contributing to the diagnosis of Henoch's purpura rests upon the employment of a simple barium suspension which enables radiologist to make a positive diagnosis of the condition rather than merely helping to exclude other organic disease.

There is no reason to doubt that this possible new sign is of value and gives some help in the diagnosis of Henoch's purpura. Certainly the pediatricians have seen many patients who have remained undiagnosed before the onset of the skin rash in spite of extensive investigations. However, the roentgen signs alone may not be specific but may be extremely helpful when evaluated with clinical findings.

It is our belief that roentgenologist should evaluate his findings by keeping in mind all the pathologic conditions which can produce a similar appearance such as acute pancreatitis or pancreatic carcinoma.

Summary

A case report is presented of a patient with intestinal change, where epsilon sign showed on the radiogram.

Early changes on the inner aspect of the duodehal loop can be detected by means of barium meal and may occur prior to any other clinical or laboratory manifestations.

Epsilon sign has been stressed as a possible new sign of Henoch's purpura.

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