



# Pediatric Erosive Gastritis: A Case Report

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**Abstract:** *Dyspepsia is a common gastrointestinal disorder which needs diagnostic examination test using endoscopy. Pediatric erosive gastritis, the case presented, is one of the diagnosis confirmed after endoscopy examination test which is mostly associated with Helicobacter pylori infection. A 10-year-old boy was presented to emergency department complaining cyclic vomiting, heartburn and constipation. Further inquiry revealed that similar progressive condition was also complained one year ago prompting endoscopy examination test to find out the underlying etiology. Erosive gastritis and Gastroesophageal Reflux Disease (GERD) were confirmed after examination. Investigation of Helicobacter pylori infection with fecal examination test was impossible due to constipation. Erosive gastritis is a gastric mucous inflammation commonly caused by Helicobacter pylori infection. The clinical manifestation of gastritis tends to be asymptomatic until a pathological component is found. Any pathology suspicion of the gastric lining may require further endoscopy examination test. The therapy of paediatric erosive gastritis includes Proton Pump Inhibitor (PPI), sucralfate sucralfate as also lifestyle modification could improve children's condition. In conclusion, paediatric erosive gastritis is an organic disorder of gastric lining treated by Proton Pump Inhibitor (PPI), sucralfate and symptomatic agents for associated symptoms. Helicobacter pylori is often associated with erosive gastritis so that further examination is needed.*

**Keywords:** *erosive gastritis; dyspepsia; pediatric*

## I. Introduction

Dyspepsia is a group of abnormal gastrointestinal symptoms including epigastric pain, heartburn, regurgitation, abdominal distention, nausea, vomiting and early full sensation. There are two types of dyspepsia which are functional dyspepsia and organic dyspepsia. A thorough history-taking and physical examination supported by diagnostic tests could differ both of the types (Purnamasari, 2017). The global prevalence of dyspepsia is 15 to 40%. In Indonesia, the prevalence of dyspepsia has reached 8-30% in which one third was organic or structural dyspepsia. Most of them were associated with Helicobacter pylori infection including erosive gastritis (Syam, 2017).

Erosive gastritis is a gastric erosion caused by imbalance of cytoprotective and cytotoxic factors on the gastric mucous (Megawati, 2014). The diagnosis is made post endoscopic procedure. Clinical manifestations of erosive gastritis in children may vary according to age (Kliegman, 2019). Curative and supportive treatment is given completed by lifestyle modification to accelerate the outcomes (Putra, 2019).

## II. Review of Literature

### Case Presentation

A 10-year-old boy was presented to the emergency department due to vomiting more than five times per day, constipation as also heartburn. Green colored vomit was thrown up as much as 50-100 mL containing undigested food. The heartburn was progressive and the last defecation was happened two days before admission.

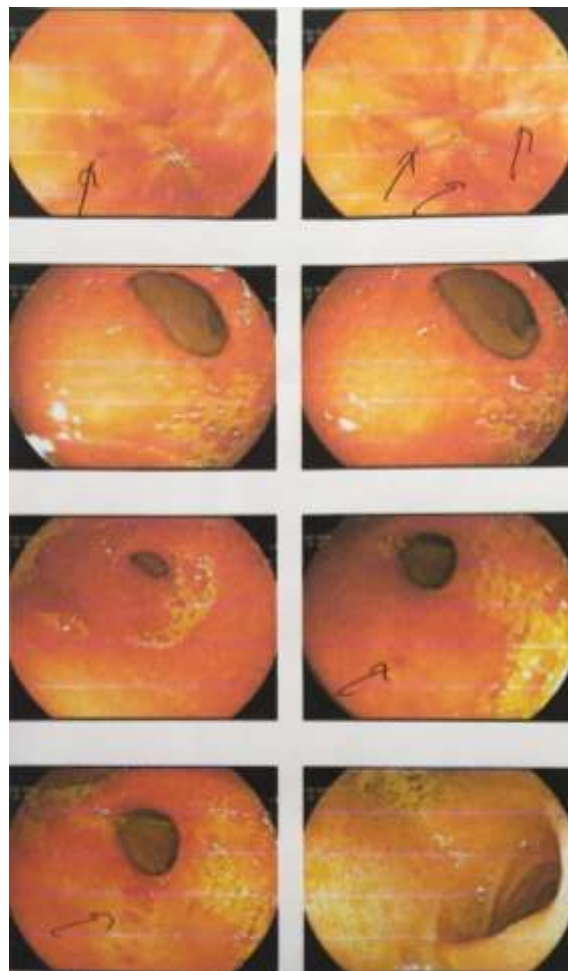
It is known that the patient had already suffered similar complaints approximately one year ago. There were no other family complaining symptoms alike. Treatment of dyspepsia had been given by general physician in her origin city including Proton Pump Inhibitor (PPI) and antiemetic agent. The immunization status was complete and there was no abnormality found before, during and after labor. Based on anthropometry test, the patient also suffered acute malnutrition. Furthermore, the patient did not consume high-fiber-food which complicated the defecation process.

#### **a. Investigation**

Laboratory test showed that there were thrombocytosis and a slight increase of monocyte. Due to the chronicity of symptoms, endoscopy examination test was planned to observe the morphology of upper gastrointestinal tract. The results showed erosions on the corpus and antrum of the gastric as also the lower third of oesophagus (Figure 1). Based on both diagnostic tests, the patient was officially diagnosed with erosive gastritis and Gastro-Esophageal Reflux Disease (GERD). As the prevalence of Helicobacter Pylori-associated gastritis is high in Indonesia, a fecal analysis is needed to confirm the etiology. However, the test was not done as the stool was retained.

#### **b. Differential Diagnostic**

Several differential diagnoses were considered including erosive gastritis, Gastroesophageal Reflux Disease (GERD), peptic ulcer, functional dyspepsia, and gastric carcinoma.



**Figure 1.** Results of Endoscopy Examination Test

### **c. Treatment**

In-hospital pharmacology treatment during admission were fluid rehydration with crystalloid, prosgan 15 mg parenterally daily, ondansetron 2 mg 12 hourly parenterally, episan, and dulcolax. After discharge, patient was given oral lansoprazole, episan, and dulcolax. Non-pharmacology treatment in and out of hospital was high-fiber foods in fine and altered consistency.

## **III. Discussion**

Paediatric erosive gastritis is a gastric mucous inflammation in children commonly caused by *Helicobacter pylori* infection. The pathophysiology of gastritis is the imbalance of cytoprotective and cytotoxic factor on the gastric lining as also gastric mucous irritation by the chloric acid (Sierra, 2020). *Helicobacter pylori* is a gram-negative bacteria which releases urease enzyme to hydrolyze urea and release ammoniac. Consequently, this bacteria will neutralize gastric acidity so that bacteria is able to colonize and invade the gastric lining.

The clinical manifestation of gastritis in children tends to be asymptomatic until a pathological component is found such as erosion, ulcer, perforation, and or malignancy (Watari, 2014). Early gastritis symptoms including epigastric pain, bloating, early full sensation, and nausea. In erosive gastritis patient, symptoms such as lower weight, hematemesis, melena, cyclic vomiting, and nocturnal pain is frequently found. Those symptoms were also found in this patient started from one year before current hospital admission. The patient was first diagnosed with chronic dyspepsia and constipation. Due to suspicion of erosive gastritis, the patient was suggested to undergo an endoscopic examination test (Syam, 2017). As endoscopic examination test needs hemodynamic stability, patients has to be admitted to the hospital several days prior to the examination day for observation (Putra, 2019).

The results of endoscopy examination showed that an erosive gastritis and GERD had been developed in patients' gastric lining (Figure 1). However, the underlying aetiology was not clear yet so that another laboratory test was needed such as fecal examination test for suspicion of *Helicobacter pylori* infection (Syam, 2017). Patient complained constipation two days prior hospital admission and the stool had finally passed on the third day at the hospital. The complain was probably developed because of lack of fiber on patient's diet. Anthropometry measurement also showed that an acute malnutrition has been developed as patients' intake and outtake was imbalanced. Therefore, lifestyle modification such as consuming high-fiber food as also rehydration fluid is highly suggested. Laxatives could also help the improvement of constipation as it decrease fecal viscosity 9 (Walter, 2018).

The first-line therapy of paediatric erosive gastritis is Proton Pump Inhibitor (PPI) such as lansoprazole.5 Sucralfate was also suggested for patients with abnormal gastric morphology so that the erosion would be covered. As nausea and vomiting was also arising, antiemetic therapy was also suggested for the sake of children's fluid balance.4 Patient was discharged from the hospital after observation and suggested for further endoscopy follow up examination test in the next one month (Kliegman, 2019).

## **IV. Conclusion**

Erosive gastritis is an organic disorder of gastric lining. The diagnosis is made after endoscopy examination test to confirm the pathological finding. As the tendency of *Helicobacter pylori* infection is higher, a fecal examination test is needed. Pharmacological therapy including Proton Pump Inhibitor (PPI) and sucralfate as also lifestyle modification could improve children's condition.

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