

Hemorrhagic gastritis caused by cow's milk protein allergy

İnek sütü proteini allerjisinden kaynaklanan hemorajik gastrit

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Cow's milk protein allergy is frequently seen in infancy. Its findings can be diverse, including different histopathological involvement ranging from a superficial to hemorrhagic gastritis. Children presenting with resistant emesis, hematemesis and hemorrhagic gastritis should be investigated for cow's milk allergy. Endoscopy and biopsy are important in the diagnosis.

Key words: Allergy, hemorrhagic, gastritis

İnek sütü proteini allerjisi bebeklik döneminde sıklıkla görülür. İnek sütü proteini allerjisinde yüzeysel gastritten hemorajik gastrite kadar çok farklı histopatolojik tutulum olabilir. İnek sütü allerjili çocuklarda, inatçı kusma ve hematemez durumunda hemorajik gastritten şüphelenilmelidir. Endoskopi ve biyopsi tanıda önemlidir.

Anahtar Kelimeler: Allerji, hemorajik, gastrit

INTRODUCTION

Cow's milk protein allergy (CMA) is a common condition in the first year of life. It is estimated that up to 50% of pediatric CMA is non-immunoglobulin (Ig)E-mediated. Gastrointestinal manifestations of CMA include chronic diarrhea, rectal bleeding, gastroesophageal reflux, constipation, and upper digestive hemorrhage (1). CMA usually presents with symptoms like vomiting, hematemesis, and chronic diarrhea, sometimes containing blood and mucus. Upper gastrointestinal hemorrhage due to CMA can be regarded as a rare symptom among infants (2).

CASE REPORT

An eight-month-old girl with vomiting since she the age of two months was admitted with hemorrhagic vomiting and restlessness. She was fed with breast-milk and formula. There was no family history of atopic disease. She had normal growth with a normal physical examination except for paleness. Laboratory results showed hemoglobin: 9,5 g/dL, platelets: 260.000 mm³, leukocytes 13.000 mm³ with the following differential: segmented neutrophils 52%, eosinophils 1,5%, lymphocytes 36,5% and monocytes 10%, and erythrocyte sedimentation rate 11 mm/h with normal coagulation parameters. Fecal occult blood was positive, and parasites, fat, and reductant substances were negative in the stool sample. Endomysial antibody was negative. Phadiatop test and specific IgE

for cow's milk proteins were positive. Cytomegalovirus (CMV) IgM was negative. Abdominal ultrasound was normal. Endoscopic examination showed fragile and edematous gastric mucosa with dramatic erosions and hemorrhagic areas (Figures 1, 2).

On histological examination, the esophageal mucosa was normal. The gastric mucosa showed an area of superficial erosion, vascular congestion, edema, and diffuse inflammatory infiltration. Microscopic examination was negative for *Helicobacter pylori* (Figure 3). She was diagnosed with CMA. After initiation of intravenous ranitidine and compliance with a restricted diet for dairy products, the patient recovered.

DISCUSSION

Cow's milk protein allergy (CMA) is an immunologically mediated reaction to cow's milk proteins that may involve the gastrointestinal tract, skin, respiratory tract, or multiple systems, i.e. systemic anaphylaxis. Clinical presentation of CMA usually occurs with symptoms like vomiting, hematemesis, and chronic diarrhea, occasionally containing mucus and/or blood. Prevalence of CMA in the general population is 1-3%, being highest in infants and lowest in adults (3).

Persistent vomiting and hematemesis in infants can be due to gastritis secondary to CMA. Endoscopy is usually

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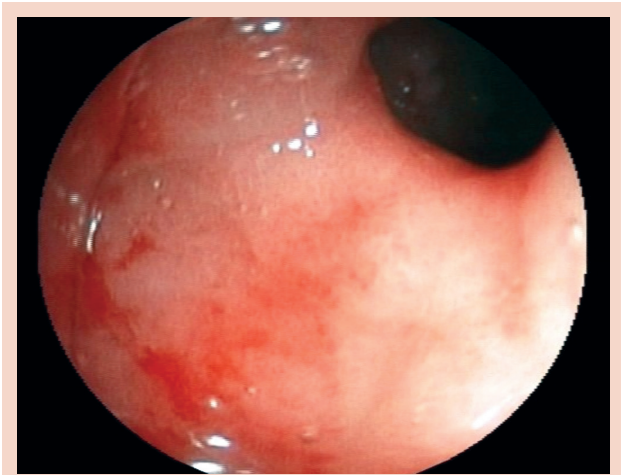


Figure 1: Gastric mucosa was fragile and edematous.

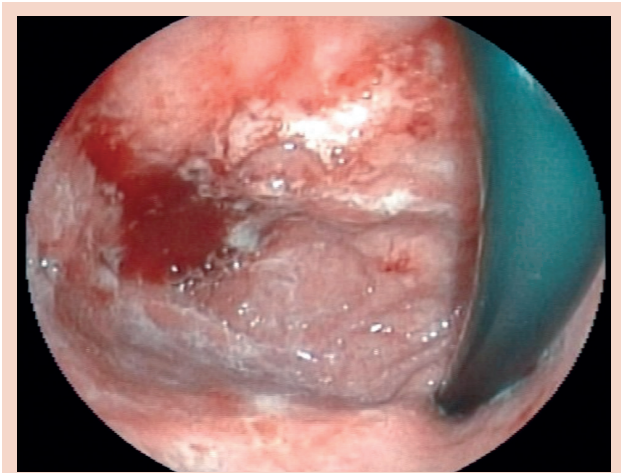


Figure 2: Hemorrhage was seen around the erosive mucosal areas.

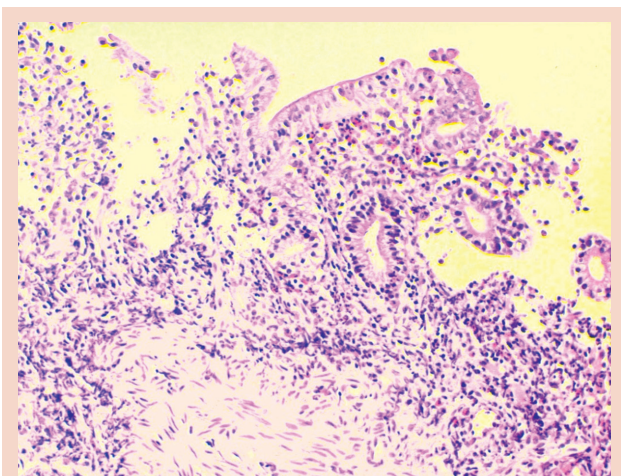


Figure 3: Spilled onto the surface epithelium, the large number of neutrophils and eosinophils in the lamina propria and epithelium is remarkable (hematoxylin-eosin, x200).

required to diagnose the extent and severity of the gastritis (4). Gastric mucosa is involved in CMA to varying degrees, from histological gastritis to hemorrhagic gastritis. Gastritis secondary to CMA may be the underlying cause of symptoms such as vomiting and irritability (1).

Upper gastrointestinal system hemorrhage in infancy is always regarded as an important problem requiring further investigation. Endoscopic examination for diagnostic purposes was performed in our patient, once she was stabilized hemodynamically, and it showed fragile and edematous gastric mucosa with erosions and hemorrhagic focuses in the stomach. The histological examination was compatible with hemorrhagic gastritis.

Gastric mucosal erosion secondary to incapacity of mucosal defense mechanisms can present as hemorrhagic gastritis. The presentation is typically acute, manifesting with hemorrhage, which may be subacute or chronic. Some children may have few or no symptoms. Causes of hemorrhagic gastritis include non-steroidal antiinflammatory drugs (NSAIDs), stress, viral infection (e.g., CMV), vascular injury, and CMA (5,6).

Our patient had no history of drug use. There were no signs of viral infection or portal hypertension. Our patient's oral intake was stopped, nasogastric tube placement was performed and intravenous ranitidine was commenced.

Only a handful of cases with hemorrhagic gastritis due to CMA have been reported in the literature. The reported cases of hemorrhagic gastritis due to CMA had all recovered with the elimination diet (1, 7, 8).

Diagnosis of CMA is difficult due to the wide range of possible symptoms that may occur. Elimination of cow's milk protein from the infant's or mother's diet and challenges are the gold standard for diagnosis (9). Cow's milk elimination requires either breast-feeding, with or without elimination diet in the mother, or introduction of specific amino acid-based formulas (10).

Based on endoscopic examination and positive allergy tests in our patient, she was diagnosed with hemorrhagic gastritis due to CMA. The treatment of our patient was achieved with an elimination diet and supportive care. Our patient benefited from the elimination diet.

In conclusion, hemorrhagic gastritis in infancy is rare; cow's milk protein allergy should be considered in the differential diagnosis of hemorrhagic gastritis in infancy.

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