

## Ménétrier's Disease

Menetrier's disease is characterized by hypertrophied gastric rugae, protein loss, parietal cell atrophy, decreased gastric acid production, and increased TGF- $\alpha$ . It is associated with cytomegalovirus in children and *Helicobacter pylori* in adults. GI distress and edema are the most common symptoms. Endoscopy with biopsy is the gold standard for diagnosis. Menetrier's disease is treated with supportive therapy, cetuximab, and surveillance.



PLAY PICMONIC

### Characteristics

#### Hypertrophied Gastric Rugae

[Hiker-trophy Stomach Rug](#)

Histologically, Ménétrier's disease can be mistaken for other disorders that also present as hypertrophic gastropathy. Mucosal hypertrophy is characterized by the thickening of gastric mucosa into giant, brain-like rugae. This is due to hypertrophy of mucus-producing cells in the gastric epithelium.

#### Protein Loss

[Down-arrow Mr. Protein](#)

Mucus is normally secreted by foveolar cells, found in the necks of the gastric pits that are the open part of the gastric glands. Non-inflammatory hyperplasia of these mucus producing cells leads to excess mucus production. For this reason, Ménétrier's disease is a type of protein-losing gastropathy.

#### Parietal Cell Atrophy

[Pirate Cell with @-trophy](#)

Parietal cells secrete gastric acid (HCl) into the stomach through the gastric pits. These form a portion of the oxyntic glands (fundic glands). Patients with Ménétrier's disease present with atrophic oxyntic glands and reduced or absent parietal cells.

#### Decreased Acid Production

[Down-arrow Acidic-lemon](#)

Decreased acid production occurs due to parietal cell loss via inhibition of acid secretion through TGF- $\alpha$ -EGFR signaling. The increase of gastric pH can also occur because of the buffering capacity of excessive mucus production.

#### Increased TGF- $\alpha$

[Up-arrow Transformer-giant-flagger-Afro](#)

Elevated TGF- $\alpha$  is found in the gastric mucosa of patients with Ménétrier's disease. TGF- $\alpha$  is a ligand that binds epidermal growth factor receptor (EGFR) which upregulates cellular proliferation. Overexpression of TGF- $\alpha$  seems to defer gastric progenitor cells to surface mucous cell differentiation rather than shunting them towards becoming parietal or chief cells.

### Associations

#### Cytomegalovirus (CMV)

[Side-toe-mega-virus](#)

Cytomegalovirus can be related to Ménétrier's disease in children. It often resolves spontaneously within 1 to 5 months with supportive treatment only.

#### Helicobacter Pylori

[Helicopter-bacteria](#)

Many patients undergo testing for *H. pylori*, and if found are treated for it. Eradication of *H. pylori* may induce spontaneous regression of the disease.

## Symptoms

### GI Distress

#### [GI-guy with flare-gun](#)

The classic symptom triad of Menetrier disease is gastrointestinal symptoms, peripheral edema, and giant gastric folds. The most common GI symptoms include epigastric pain (65%), asthenia (60%), anorexia (45%), weight loss (45%), and vomiting (37.5%).

### Edema

#### [Edamame](#)

Protein loss may lead to a decrease in oncotic pressure that can result in edema, ascites, and pleural effusions. Significant hypoalbuminemia may develop.

## Diagnosis

### Endoscopy with Biopsy

#### [Endoscopy and Biopsy-needle](#)

Histology is the gold standard for diagnosing Ménétrier's disease. Endoscopy (gastroscopy) will show giant rugal folds predominantly in the greater curvature of gaster, commonly in the fundus and body, which needs to be confirmed by biopsy. An increased mucous surface cell thickness  $\geq 1$  cm, diffuse thickening of the foveolar epithelium, lack of inflammatory cells, and dilated cystic gastric glands are often seen on histological specimens. Parietal and chief cell counts are often reduced as well.

## Management

### Supportive Therapy

#### [Supportive IV Bags](#)

Unfortunately, there is no cure for Ménétrier's disease. Supportive therapy with symptom control is the standard of care. This includes a high protein diet, proton pump inhibitors, and *H. pylori* eradication. Severe cases may require gastrectomy.

### Cetuximab

#### [C-tux-mob](#)

Cetuximab may be used in Ménétrier disease since it theoretically can target the TGF- $\alpha$  / EGFR overexpression. It is approved by the FDA on a compassionate need basis.

### Surveillance

#### [Surveillance-camera](#)

Ménétrier's disease might be a precancerous state. Reports have found a 2-15% increased lifetime risk in gastric adenocarcinoma. For this reason, surveillance with regular follow-ups and endoscopy is important.