Diffuse Esophageal Spasm

Diffuse Esophageal Spasm (DES) is a condition in which multiple segments of the esophagus contract spontaneously in a uncoordinated fashion. These esophageal contractions prevent the passage of food through the esophagus and into the stomach. As a result, patients may present with dysphagia or chest pain. Diagnostic workup includes manometry and barium swallow where a corkscrew appearance may be seen. Management principles include avoiding triggers, pharmacotherapy with calcium channel blockers or nitrates, and surgery if necessary.



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Characteristics

Spontaneous and Uncoordinated Muscle Spasms

Muscle-man Spaceship

The main pathophysiologic mechanism of DES is the presence of multiple esophageal spasms which are uncoordinated and non-peristaltic. These contractions occur over multiple esophageal segments.

Clinical Features

Dysphagia

Dice-fajita

Given the uncoordinated spasms, food can get trapped in the esophagus causing dysphagia. It is important to note that while dysphagia is very common in these patients, regurgitation is not.

Chest Pain

Chest Pain-bolt

Chest pain is a common finding in these patients. The chest pain can sometimes radiate to the jaw, arms, and back. These features can sometimes make it difficult to distinguish the non-cardiac chest pain of DES from cardiac angina.

Diagnosis

Manometry

Man-eating-tree

Esophageal manometry is an important diagnostic test for DES. The presence of multiple simultaneous esophageal contractions confirms the diagnosis. The spasms typically occur after swallowing food, are multiphasic, and repetitive. The lower esophageal sphincter response is normal in these patients.

Corkscrew Appearance on Barium Swallow

Corkscrew and Swallowing Berries

The imaging findings on barium swallow resemble a corkscrew. This finding is only present in 50% of patients and cannot be used alone to confirm or exclude the diagnosis of DES.

Management

Avoid Triggers

Avoid-sign with Trigger

In general, there is no completely effective therapy for DES and treatment failure is common. As such, identifying and reducing the triggers responsible for the esophageal spasms is important. Some triggers can include drinking very hot or very cold fluids, drinking red wine, anxiety, and depression.

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Calcium Channel Blockers

Calcium-cow Channel with Blocks

Calcium channel blockers are often used in the management of DES. Calcium channel blockers are effective in reducing the amplitude of esophageal contractions.

Nitrates

Nitro-tank

Nitrates are another effective medication which can be used to treat diffuse esophageal spasm.

Surgery

Surgeon

The treatment of last resort is esophagomyotomy. The efficacy of this procedure in treating DES is controversial and it is only recommended in cases when a patient is incapacitated by the symptoms.

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