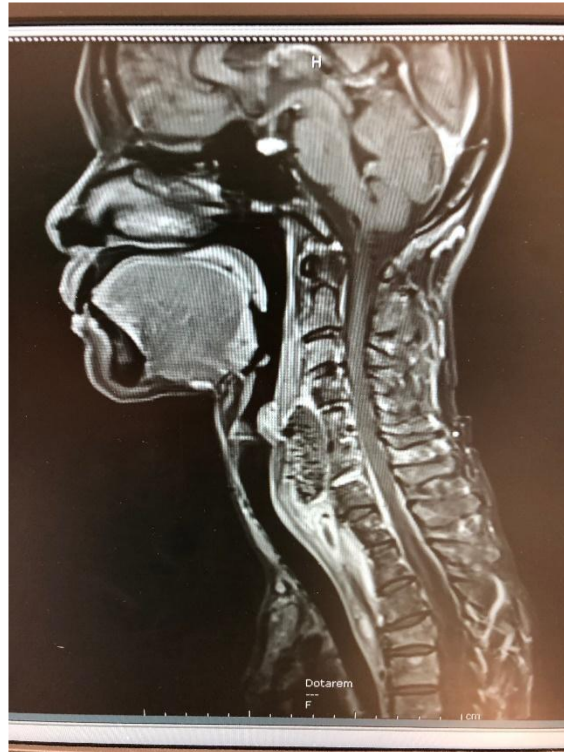
In Brief

Zenker's Diverticulum



by Justin Cole, MD; Michael Bergstein, MD, and Adele Shenoy, MD

Zenker's diverticulum (ZD) is an outpouching of the hypopharyngeal mucosa through weakened inferior pharyngeal constrictor muscles in the posterior hypopharynx; typically, the cricopharyngeal muscle is involved. This condition appears as a stretching of the lining of the lower part of the pharynx, just above the cricopharyngeal muscle and near the upper esophageal sphincter in an area known as the "triangle of Killian." It is a false diverticulum, because it does not involve all layers of the esophageal wall. ZD is quite rare (prevalence, 0.11%) and is most commonly seen in men in their 70s and 80s.

Signs and Symptoms

When the diverticulum is large enough to retain food and mucus, patients have foul-smelling breath, gurgling, regurgitation of food into the mouth, and a mass-like appearance in the neck. Progressive dysphagia (initially with liquids, then with solids) may occur, eventually leading to weight loss and malnourishment. Other symptoms of ZD include hoarseness, dysphonia, cough, hemoptysis, and hematemesis.

Dysphagia may be caused by the incomplete opening of the upper esophageal sphincter or by extrinsic compression of the cervical esophagus by the diverticulum. Aspiration of necrotic food content or just necrotic mucous poses a real concern and risk for hospitalization.

Cause

ZD is typically secondary to age-related changes in swallowing resulting from repetitive dyscoordination between relaxation of the upper esophageal sphincter and contraction of the pharynx.

Diagnostic Evaluation and Differential Diagnosis

Initial diagnosis of ZD is clinical and confirmed by the results of a barium swallow esophagram. An ultrasound can be used in patients who have difficulty swallowing the chalky white barium liquid. Cervical borborygmus (gurgling or rumbling) and a palpable mass in the neck might be considered pathognomonic of ZD.

The differential diagnosis of ZD includes strictures and esophageal carcinoma, which can also cause progressive dysphagia. Endoscopy can be used to distinguish ZD from esophageal carcinoma.

Treatment

If the patient is symptomatic and/or the diverticulum is larger than 1 cm in size, surgical treatment is recommended.

Every effort should be made to pursue endoscopic treatment. Open surgery may be needed in the presence of retrognathia, prominent teeth, cervical kyphosis, or temporomandibular joint disease that occlude endoscopy.

Prognosis

Prognosis for endoscopic repair of ZD is excellent, with success rates of ~ 95%. Recurrence is reported in ~ 5% of patients treated endoscopically.

Complications

Although most diverticula are repaired endoscopically, surgical diverticulectomy carries a low risk of mediastinitis, recurrent laryngeal nerve injury, pneumonia, hematoma, and infection.

Pearl

The incidence of squamous-cell carcinoma located within the ZD may be as high as 1.5%

ABOUT THE AUTHORS

Justin Cole, MD
Dr. Cole is a Prospective Resident in the Otolaryngology Residency Program at the University of Rochester School of Medicine and Dentistry. He completed his undergraduate studies at Ohio University and received his MD degree from New York Medical College. His hobbies include camping, hiking, and downhill skiing.

Michael J. Bergstein, MD
Dr. Bergstein is a double-boarded, fellowship-trained surgeon with particular expertise in Facial Plastic and Reconstructive Surgery and Balloon Sinus Surgery. Dr. Bergstein completed his residency training in Otolaryngology-Head and Neck Surgery at the Mount Sinai Medical Center in New York. He then completed a Facial Plastic and Reconstructive Surgery fellowship at the University of California at San Francisco. He is an Assistant Clinical Professor at the Icahn School of Medicine at Mount Sinai Medical Center in New York and participates in the education and training of residents in all aspects of Facial Plastic and Reconstructive Surgery. His hobbies include Ironman triathlons, surfing and Taekwondo. .

Adele Shenoy, MD
Dr. Shenoy graduated from New York Medical College and is currently a first-year resident in Internal Medicine at Mount Sinai West/Mount Sinai Morningside. She will begin her Dermatology residency at Northwell next year. A native of Westport, Connecticut, Dr. Shenoy completed her undergraduate education at Dartmouth College. Her hobbies include running, ballet dancing, and playing the viola..

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