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Eosinophilic oesophagitis:
An under recognised cause of dysphagia

Dr Ashley Miller

Case Report

A 24 year old male presents with 4 years of intermittent food impaction in the oesophagus, especially with meat and chicken. The episodes occur every 2 to 3 months and usually require a drink of water to relieve the impaction. The patient states he has to chew his food well for fear of impaction. He has a history of asthma and atopic dermatitis.

What is the differential diagnosis? What test should be ordered?

Answer: A gastroscopy is requested. The Endoscopist reports circular rings and vertical furrowing in the oesophagus. Biopsies are taken from the upper and lower oesophagus to confirm the diagnosis of eosinophilic oesophagitis.

Abstract: *Eosinophilic oesophagitis (EO) is an under recognised cause of dysphagia. It typically presents in young men with a history of asthma and/or other atopy. The cause of EO is unknown but likely has its basis in allergy. The diagnosis is made clinically and histologically based on appropriately sited oesophageal biopsies. The diagnosis may be missed if such biopsies are either not performed or incorrectly taken. Treatment success is varied with topical fluticasone as the initial therapy.*

Definition: EO is defined as a chronic, immune/antigen-mediated, oesophageal disease characterised clinically by symptoms related to oesophageal dysfunction and histologically by eosinophil-predominant inflammation. The incidence of EO, currently estimated to be approximately 1 in 10,000, is increasing, in part due to increased recognition.

Pathogenesis: The pathogenesis of EO is incompletely understood but likely includes environmental and genetic factors. Eosinophils are not usually found in the oesophagus. In EO, eosinophil recruitment to the oesophagus may be an immune response to environmental antigens in genetically predisposed individuals. Patients often have a history of atopy (asthma, atopic dermatitis or hayfever). Specific food or other environmental antigens associated with EO have not been identified.

Clinical features: EO is found in both children and adults. Adults and teenagers frequently present with dysphagia and food impactions, whereas in younger children symptoms often include feeding difficulties and abdominal pain. The majority of affected adults are men in their 20's and 30's and many have dysphagia or episodes of food impaction to solids (especially meat, chicken and bread) for years before diagnosis. Up to 15% of patients being evaluated for dysphagia with endoscopy are found to have EO.

Diagnosis: The diagnosis of EO is based on symptoms, endoscopic appearance, and histological findings. There are a number of morphologic features suggestive of EO which may be seen at endoscopy including circular rings, linear furrowing, strictures, white spots and small calibre oesophagus.

Oesophageal biopsies from patients with EO show an increased number of eosinophils. The vast majority of patients have at least 15 eosinophils per high power field in at least one biopsy specimen. It is important that the endoscopist take at least 4 biopsies from the proximal and distal oesophagus when assessing for EO. The sensitivity of biopsies for diagnosing EO depends upon the number of biopsies obtained. Oesophageal eosinophilia in the absence of clinical features is not sufficient to make a diagnosis of EO. If patients also complain of abdominal pain, nausea, vomiting and/or diarrhoea, gastric and duodenal biopsies should be taken to assess for eosinophilic gastroenteritis which requires different management to EO. Occasionally patients with gastro-oesophageal reflux disease demonstrate eosinophilia on oesophageal biopsies.

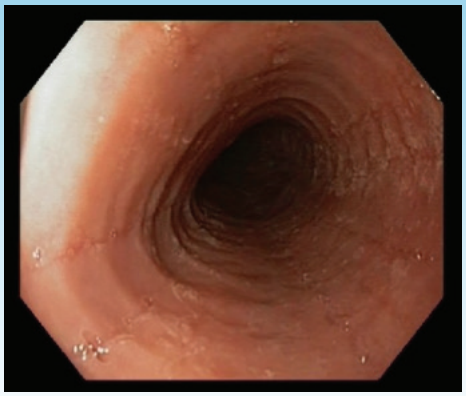

Figure: Endoscopic appearance of eosinophilic oesophagitis showing circular rings *(black arrows)* and linear furrowing *(white arrows)*.

Treatment: There is no simple cure for EO. Specialist involvement in treatment is advised. In adults, topical corticosteroid is usually to first line therapy. Fluticasone is administered using a metered dose inhaler without a spacer. The medication is sprayed into the patient's mouth and then swallowed with a small sip of water. Patients should not eat or drink for 30 minutes following administration. The usual treatment dose is fluticasone 250ug, 2 puffs twice a day for 8 weeks.

If symptoms recur then repeat courses of fluticasone or lower dose maintenance therapy can be trialled. Second line therapy includes oral corticosteroids and montelukast. Proton pump inhibitor therapy may help patients with associated reflux disease. The role of formal assessment for allergies is controversial. A dietary approach may be used in children with EO. The long-term prognosis of eosinophilic esophagitis is unclear. Untreated, patients may remain symptomatic or have episodic symptoms.

Take home message: Consider EO as a possible diagnosis in patients, particularly young men, with dysphagia or a history of food impactions.

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Dr Ashley Miller is a consultant physician, gastroenterologist and endoscopist. He obtained his medical degree at the University of Melbourne and then undertook specialist training in Gastroenterology in Melbourne and Canberra. Dr Miller has a PhD in the field of inflammatory bowel disease.

Dr Ashley Miller is a Visiting Staff Specialist and Head of Clinics in the Department of Gastroenterology at St Vincent's Hospital, Melbourne. He conducts a private consulting practice at 100 Victoria Parade, East Melbourne, at Hobson Healthcare in Werribee, and at Hobsons Bay Specialist Centre. Endoscopy service is conducted at the Epworth Freemasons Day Procedure Centre and at Hobson Healthcare in Werribee and Altona. Dr Miller admits private patients to St. Vincent's and Mercy Private Hospital, and the Epworth Freemasons Hospital, East Melbourne.

Dr Miller's special interests include gastroscopy, colonoscopy, capsule endoscopy, inflammatory bowel disease, bowel cancer screening and coeliac disease. He is particularly interested in medical education and is a Fellow in the Department of Medicine, St Vincent's Hospital, University of Melbourne and an Adjunct Clinical Senior Lecturer in the School of Medicine, University of Notre Dame. Dr Miller teaches both undergraduate and trainee specialists. He also has a keen interest in the teaching of colonoscopy and has undergone the specialist "Train the Trainer Programme in Colonoscopy". Dr Miller is a long serving member of the St. Vincent's Hospital Human Research and Ethics Committee.

Dr Ashley Miller is Chairman of the Hobson Healthcare Medical Advisory Committee and a former director of Hobson Healthcare (formally Hobson Bay Endoscopy). In 2014 he founded Focus Gastroenterology with Dr Mark Lust.

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