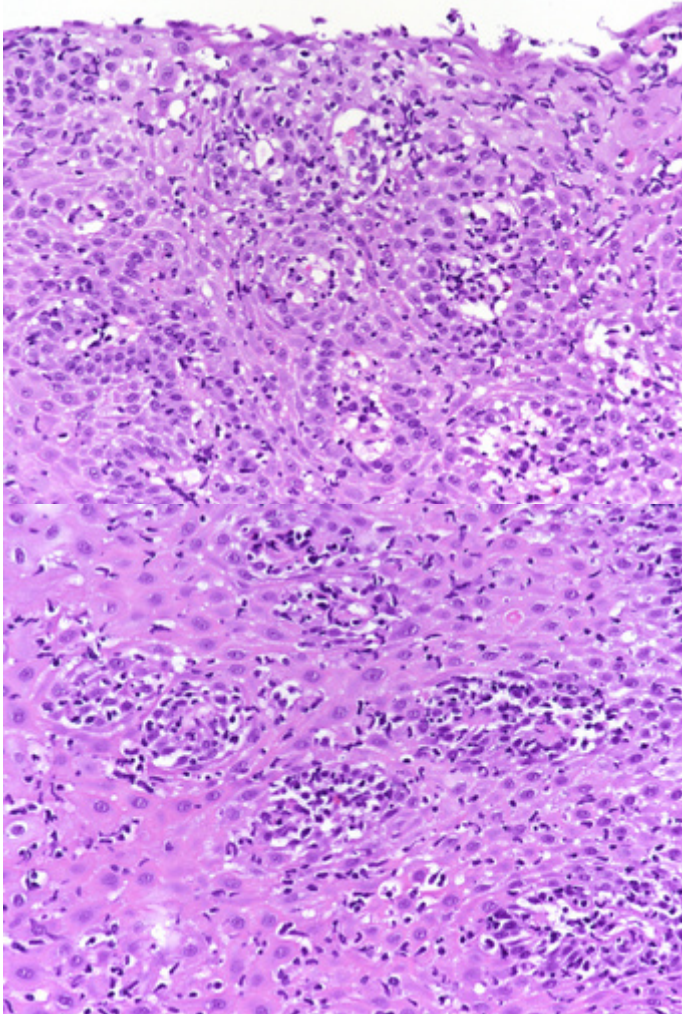
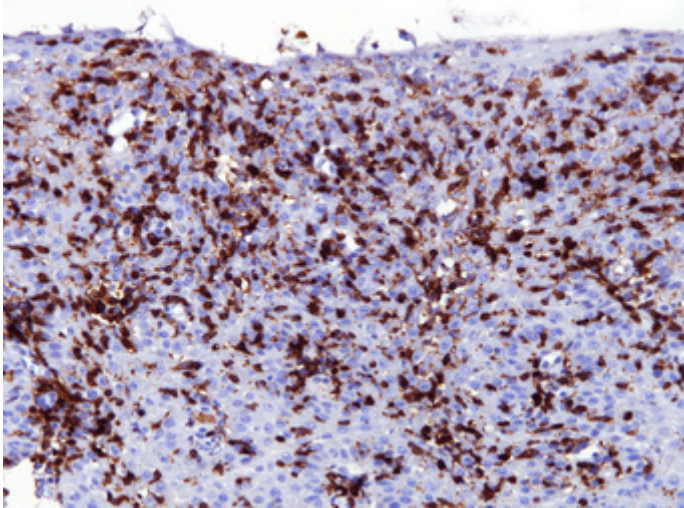
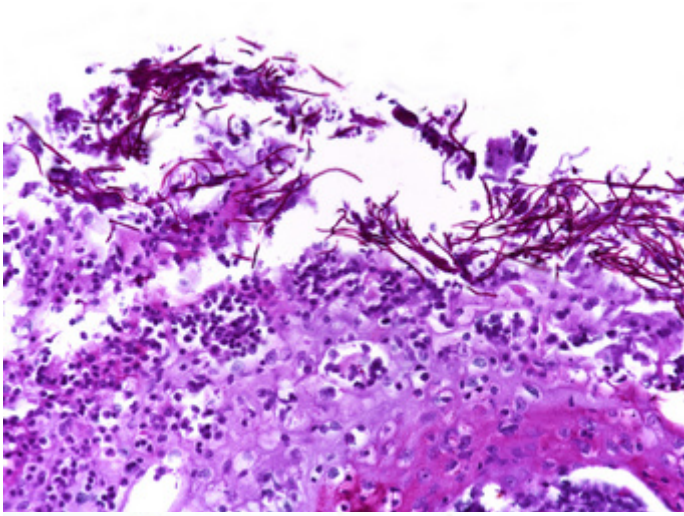
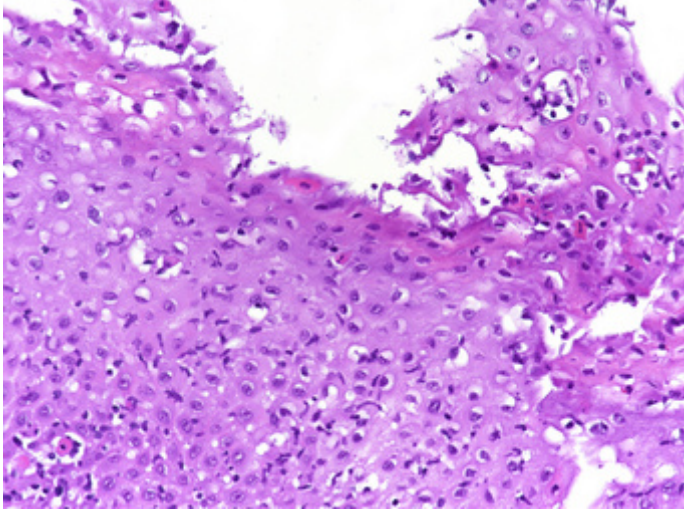
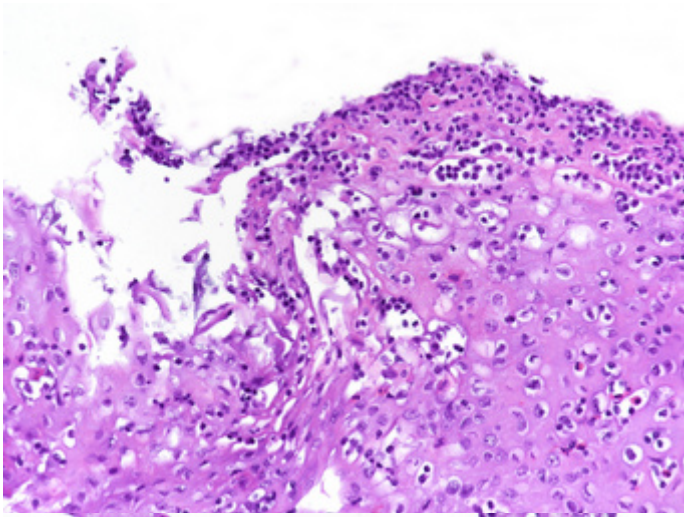


September 2020

Oesophageal biopsies from a 69-year old male with diabetes mellitus.

What is your diagnosis?





Diagnosis:

Candida oesophagitis.

Comment:

A 69-year old male with known diabetes mellitus (type II) reports on retrosternal burning. Endoscopy shows adherent confluent white plaques in all parts of the oesophagus (Panels A-B). Histology reveals squamous epithelium with intercellular oedema and prominent lymphocytic infiltration with peripapillary accentuation (Panels C-D). Neutrophils are present next to the surface and within fibrinopurulent exudate (Panel E). Apoptotic bodies are also seen (Panel F). Periodic acid-Schiff (PAS) stain highlights numerous bright fuchsia yeasts and (pseudo-) hyphae on the mucosal surface (Panel G). Immunohistochemistry was performed (only for this presentation) to highlight the numerous CD3 positive T cells (Panel H).

Candida oesophagitis is the most common infectious oesophagitis. Approximately up to 30% of population is colonised with *Candida albicans* within the oesophagus, which represents the most common *Candida* species. Under certain circumstances, such as immunodeficiency, malignant disease, or diabetes, the fungi become pathogenetic. Motility disorders such as achalasia or scleroderma can also predispose to candida infection.

On histology, there is typically a superficial neutrophilic infiltrate with exudate of fibrin and yeasts with (pseudo-) hyphae caught within it. Inflammatory response can vary from mild neutrophilic infiltration to rare ulcers and necrosis. It is important to distinguish between true oesophagitis and colonisation of a pre-existent ulcer. Appropriate inflammatory response to the organism guides the differential diagnosis.

The presented case is noteworthy for several reasons. There is a strong lymphocyte infiltrate, which formally fulfils the criteria of lymphocytic oesophagitis. Even dispersed apoptotic figures are seen, which may encounter in lymphocytic oesophagitis, but also in lichenoid oesophagitis. Though the cut-off value for lymphocytic oesophagitis is under debate, our case has much more than 40 intraepithelial lymphocytes (per HPF), which represents the highest cut-off value available (proposed by Carlos Rubio to avoid overdiagnosis). Please note, about two thirds of cases with *Candida* oesophagitis demonstrate increased intraepithelial lymphocyte levels, albeit in varying extent. We recommend that *Candida* oesophagitis should be ruled out before making definitive diagnosis of lymphocytic oesophagitis. Neutrophils can be used to guide careful search for yeasts. An additional PAS stain may be helpful.

For further reading:

- › Martin IW, Atkinson AE, Liu X, Suriawinata AA, Lefferts JA, Lisovsky M. Mucosal inflammation in *Candida* oesophagitis has distinctive features that may be helpful diagnostically. *Mod Pathol.* 2018; 31: 1653-1660.
- › Mohamed AA, Lu XL, Mounmin FA. Diagnosis and Treatment of Esophageal Candidiasis: Current Updates. *Can J Gastroenterol Hepatol.* 2019;2019:3585136. Published 2019 Oct 20.
- › Roupheal C, Gordon IO, Thota PN. Lymphocytic esophagitis: Still an enigma a decade later. *World J Gastroenterol.* 2017; 23: 949-956.

Presented by:

Dr. Theresa M. Godschachner, Dr. Thomas Fuchs and Dr. Cord Langner, Graz and Hartberg, Austria.