



## Doxycycline-Induced Pill Esophagitis: A Case Report

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### Introduction

Medication is a significant cause of damage to the esophageal mucosa, either by direct mucosal injury or systemic effects. The actual incidence and prevalence of pill-induced esophagitis are hard to determine since most medication-induced esophagitis is not reported, and usually, only severe cases seek medical attention. Many medications are described as a cause of esophagitis, and risk factors such as altered anatomy or motility, the patient position, size of the medication, and amount of fluid ingested during the administration are well described [1]. We will present a case of a patient with severe symptoms of heartburn and dysphagia after intake of Doxycycline.

### Case Presentation

A 30-year-old man with no previous comorbidities was under treatment for periorificial dermatitis (Figure 1). The regimen was Doxycycline 100 mg twice daily. On the fourth day of treatment, the patient woke up with severe retrosternal pain and odynophagia. On that day, the patient could not ingest solid foods and maintained significant heartburn throughout the day, despite taking symptomatic medications.

The next day, the patient sought medical attention and reported having forgotten the night dose of his medication, having woken up in the middle of the night, and taking the medication in the supine position, without fluid intake. The symptoms started the following morning, and no improvement was noticed. At this point, the patient was admitted, fasted, laboratory tests were collected, a proton pump inhibitor was prescribed, and an upper gastrointestinal endoscopy was indicated.

The labs noticed no abnormalities, and the upper gastrointestinal endoscopy revealed a large ulcer from 25 cm to 31 cm from the oral cavity (Figure 2). This ulcer was located on the right anterolateral wall, without active bleeding but friable at the scope passage (Figure 3). There was also a small amount of blood in the gastric cavity (Figure 4). No other abnormalities were seen in the procedure, and no biopsies were performed on the ulcer due to the known cause.

After the procedure oral liquid diet was initiated with good acceptance. On the following day, despite diet intake, there was a significant improvement in symptoms, without pain, nausea, or vomiting. The patient was discharged from the hospital with a proton pump inhibitor and sucralfate, and a clinical appointment was scheduled for one month later.

In the reevaluation, the patient was asymptomatic: No pain or dysphagia was described. The diet progressed to solid foods in the second week, and the medication was discontinued three days

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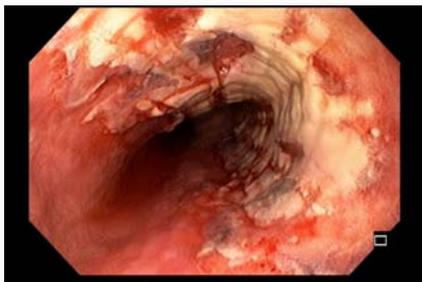
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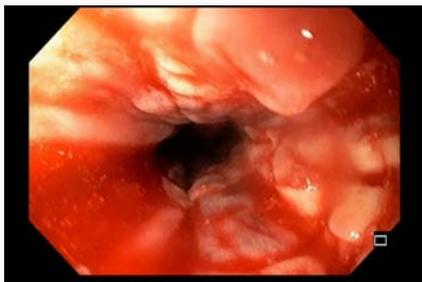
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Figure 1: Periorificial dermatitis.



**Figure 2:** Large ulcer from 25 to 31 centimeters from the oral cavity.



**Figure 3:** Ulcer was located on the right anterolateral wall.



**Figure 4:** Small amount of blood in the gastric cavity.

before the appointment without any issue. At this point, no additional treatment was prescribed, and no other endoscopic procedure was indicated due to the complete resolution of the symptoms despite the progression of the diet and discontinuation of the medication.

## Discussion

Pill-induced esophagitis is a recognized condition that is possibly under diagnosed. Its pathogenesis is associated with the prolonged contact of the medication with the esophageal mucosa, owing to delayed esophageal transit and causing damage to the mucosa [2].

Functional and anatomical alterations, such as motility disorders and strictures, are associated risk factors. In the same way, the medication size and how it is administered, especially when the patient is in the supine position and does not ingest enough fluid, are significantly associated with esophagitis [1].

More than one hundred different medications have been reported to cause pill-induced esophagitis. Nearly fifty percent of the cases are caused by antibiotics, been the tetracyclines the most common, followed by penicillin's, trimethoprim sulfamethoxazole, and clindamycin. Other classes of drugs represent high risk either, including non-steroidal anti-inflammatories and specially biphosphonates [3].

The symptoms include retrosternal pain or heartburn, odynophagia, dysphagia, and a history of ingestion of medications known to cause esophageal injury. The onset of the symptoms usually occurs in the first three days, often starting in the first hours after the ingestion of the associated drug. Patients often also report swallowing a pill without water, commonly at bedtime [3].

The resolution of the symptoms usually occurs in the first week after proper evaluation, but complications such as perforation and strictures were already described.

This way, a medical consultation, and endoscopic evaluation are essential for adequate diagnosis and treatment indication [4]. The following step in management is to discontinue the offending medication and prescribe acid suppression.

In conclusion, pill-induced esophagitis is a condition under diagnosed and underestimated, but severe cases and complications may occur. Orientation about the intake of drugs must always be done, especially when prescribing high-risk medications such as Doxycycline and Alendronate. When suggestive history and symptoms are presented, a medical evaluation must be carried out, and appropriate measures be taken.

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