

Doxycycline Induced Esophageal Injury: Case Report

Doksisiklin Kullanımına Bağlı Özofageal Yaralanma

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ABSTRACT Drug-induced esophagitis is a rare complication of certain drugs including antibiotics and anti-inflammatory agents used in medical therapy. A 28 year-old woman presented to our hospital with an acute onset severe retrosternal pain, odynophagia and dysphagia after using doxycycline for her genital infection. Her history included drug ingestion with a small amount of water. Endoscopic examination detected deep ulcerations at the middle third of esophagus. Apparent improvement in her symptoms started 3 days after initiation of omeprazole following discontinuation of doxycycline. Pills are a preventable cause of esophageal injury. Drug-induced esophagitis is not uncommon with certain drugs and use of this drug should be investigated in patients presenting with retrosternal pain.

Key Words: Esophageal diseases; doxycycline

ÖZET İlaç kullanımına bağlı oluşan özofajit, medikal tedavide kullanılan bazı antibiyotik ve anti-inflamatuar ilaçların nadir komplikasyonudur. 28 yaşında bayan hasta, genital infeksiyon nedeniyle doksisiklin kullanımı sonrası akut olarak başlayan retrosternal ağrı, ağrılı yutma ve yutma güçlüğü nedeniyle hastanemize müracaat etti. Anamnezinde hastanın kullandığı ilacı az miktarda su içmesi dışında özellik yoktu. Endoskopik muayene esnasında özofagus orta kısımda derin ülserler olduğu tespit edildi. Doksisiklinin kullanımının kesilmesini takiben başlanan omeprazol tedavisinin 3. gününde hastanın semptomlarında belirgin düzelme oldu. İlaçlar özofageal yaralanmanın önlenilebilir sebepleridir. Bazı ilaçların kullanımında özofajit oluşumu yaygındır ve retrosternal ağrı yakınması ile müracaat eden hastada bu ilaçların kullanımı araştırılmalıdır.

Anahtar Kelimeler: Özofageal yaralanma; doksisiklin

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Drug-induced esophagitis occurs with ingestion of certain drugs, more commonly in bedridden patients.¹ Number of cases reported within the past 30 years has been less than 1000 and the potential for inducing esophageal lesions was reported for more than 100 drugs. Its low incidence is probably due to undiagnosed or underreported cases.²⁻⁴ In this report, we reported a case of doxycycline-induced severe esophagitis and provocative factors for injury.

CASE REPORT

A 28-year old female patient presented to the emergency unit of our hospital with severe retrosternal pain and odynophagia. She was prescribed

doxycycline 100 mg tb. b.i.d. by a gynecologist in our hospital due to genital infection 3 days ago. Her complaints started about 8-10 hours following her first dose 1 day ago. ECG and PA chest x-ray did not reveal any abnormality. Her history was not significant except for ingestion of drugs with a little amount of water. The diagnosis was doxycycline-induced esophagitis. Superficial ulcers with relatively normal surrounding mucosa were detected on the middle third of the esophagus by upper gastrointestinal endoscopy (Figure 1). The lower part of the esophagus and cardio-esophageal junction was completely normal. The drug was discontinued and the patient was recommended to take a liquid diet and proton pump inhibitor (omeprazole) 20 mg b.i.d. On the third day, a rapid improvement in her symptoms was observed. She was asked to return to the clinic 4 weeks later and the control endoscopy showed no lesion on the esophagus.

DISCUSSION

Pill-induced esophagitis is an underestimated complication of drug use. The true prevalence for most medications is not known, which is probably due to the lack of a non-invasive diagnostic method.^{5,6} More than 100 drugs have been implicated in esophagitis in cases reported previously and antibiotics such as doxycycline, tetracycline, oxytetracycline, minocycline, penicillin, clindamycin etc. were

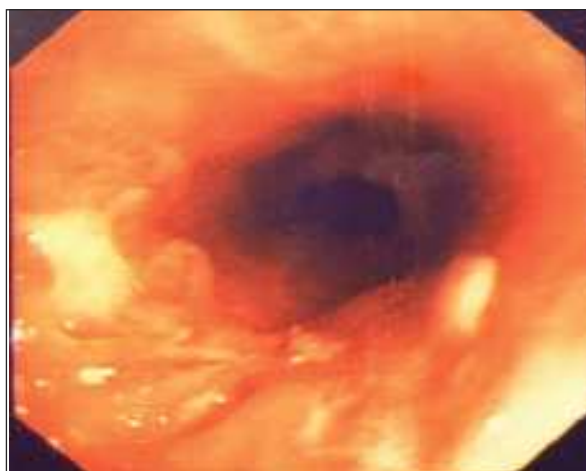


FIGURE 1: Superficial ulcers surrounding edematous, fragile mucosal area are present on the middle third of esophagus.

identified as culprit agents in more than half of these cases.¹⁻⁴ Risk for development of drug-induced esophagitis is grouped based on patients, esophagus and drugs. Patient related factors include intake of drug with insufficient amount of water and being at supine position during or just after drug intake. Esophagus related factors include dysmotility disorders and functional and structural disorders such as stricture. Drug related factors include caustic character of drugs, dissolution, delayed release forms, exposure time and size of the tablet. Capsule forms were shown to be more hazardous compared to tablets.⁷ In our patient, the main risk factor for doxycycline induced esophagitis could be related to the inadequate amount of water taken with the pill. The patient had the habit of swallowing the capsules at bedtime with little water. No esophagus-related factors could be identified.

Upper gastrointestinal endoscopy is the most sensitive diagnostic tool to determine esophageal injuries.⁸ Sparing of the distal esophagus excludes gastroesophageal reflux disease (GERD) as a cause of the esophagitis. Middle third esophagus is thought to be the most affected site. Because, in this area of the esophagus, transit time of the pill is slow and the contact time is long. Ulcers with relatively normal surrounding mucosa in the proximal or mid-esophagus are typical.⁹ In our case, we detected multiple, discrete, superficial ulcers with relatively normal surrounding mucosa in the middle third of the esophagus.

There are no pathognomonic histologic characteristics of pill esophagitis. Biopsies from the injury area generally disclose typical necroinflammatory changes and non-specific esophagitis.⁹ However, the biopsy of the lesion is of no use in the case of a typical drug history and ulcer.¹⁰ We did not obtain a biopsy specimen in our patient because it was not necessary for the diagnosis and considering the benign nature of the condition and the young age of the patient.

Although there is no established method for the treatment of drug-induced esophagitis that could be applied for every patient, there is consensus on discontinuation of the culprit agent. Improve-

ment may be observed within days or weeks after discontinuation of the drug. However, continuation of the drug may result in a delay in improvement.^{3,11} If the use of the drug is critical for the patient, a liquid preparation may be substituted. Treatment is generally empirical and non-specific. Various medications are often prescribed such as antacids, histamine H2 receptor blockers, proton pump inhibitors, and sucralfate. In some cases, discontinuation of oral intake followed by parenteral therapy and fluid replacement may be necessary

for patients with malnutrition due to odynophagia and dysphagia.^{10,12-14} In our patient, the symptoms markedly alleviated after stopping the drug and symptoms disappeared within 3 days. We used proton pump inhibitors to suppress acid secretion for a week.

In conclusion, doxycycline may cause esophageal injury when taken improperly. Patients with predisposition for the development of pill-induced esophagitis should be advised to take their drugs with plenty of water in proper position.

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