

Doxycyclin induced esophageal injury: A Case series

Doksisikline bağlı özefagus hasarları: Olgu serisi

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ABSTRACT

Some drugs have been known to damage to esophagus for a long time. Half of the cases reported are of tetracycline and its derivatives. The damage caused by these drugs is depends on the drug itself and the patient.

In this paper we present 5 patients having diagnosed esophageal damage endoscopically after due to doxycyclin use. The mean age of the patients was 26 years. Three of them for acne and 2 for heir complaints gynecological infection were taking these drugs. Lesions were located at the middle in 4 cases and lover part in 1 patient. The common complaint was retrosternal pain and heartburn after taking the drug with insufficient water or without water. All the patients were relieved by sytmomatic teratment.

Esophageal damage is to be remembered in patients complaning sudden pain and difficult swallowing on doxycyclin treatment and endoscopic procedure should be employed for definition of diagnosis and evaluation of the severity of the damage. After treatment, endoscopic control is not necessary. Physicians must not forget to advice the patients to take these drugs with splendid amount of water.

Key words: Doxycycline, esophagus damage, endoscopy

INTRODUCTION

In the last 40 years, more than 650 cases of esophagitis caused by the30 different drugs are reported [1]. Half of the responsible drugs are tetracycline, doxycycline and clindamycin [2]. Esophageal injuries are 22 times more frequent after capsule form tablet formation because capsule form can easily stick to esophageal mucosa [3]. Clinical symptoms are severe retrosternal pain and dysphagia which

ÖZET

Bir çok ilacın özefagus hasarlarına neden olduğu uzun zamandır bilinmektedir. Şimdiye kadar bildirilen vakaların yaklaşık yarısı tetrasiklin grubu ilaçlara bağlıdır. İlaçların özefagusta oluşturduğu hasarlar, ilacın kendisine ve ilacı alan hastaya bağlı nedenlerle oluşmaktadır. Yazımızda doksisiklin kullanımına bağlı endoskopik olarak tespit edilen özefagus hasarları gelişen 5 hasta sunulmuştur. Hastaların yaş ortalaması 26 yıl idi. Dört hasta kadın, 1 hasta erkekti. Hastaların 3'ü akne nedeniyle, 2'si jinekolojik enfeksiyonlar nedeniyle bu ilacı kullanmaktaydı. Lezyonların 4'ü özefagus orta kesimde 1'i distale yakın yerleşmişti. Ortak yakınmaları ilacı susuz veya az bir suyla alımından hemen sonra başlayan retrosternal ağrı ve yutma güçlüğüydü. Hastaların tamamı semptomatik tedaviyle düzeldi. Sonuç olarak doksisiklin kullanan, ani başlayan retrosternal ağrı ve yutma güçlüğü tarifleyen hastalarda özefagus hasarı akla gelmeli ve tanıyı kesinleştirmek ve hasarın şiddetini değerlendirmek için mutlaka endoskopi yapılmalıdır. Tedaviden sonra endoskopik kontrol her zaman gerekli değildir. Doksisiklin kullanan hastalara ilacı susuz kesinlikle içmemeleri önerilmelidir.

Anahtar kelimeler: Doksisiklin, özefagus hasarları, endoskopi

occur after hours or days of taking the drug [4]. In this study, causes of esophageal damage due to doxycycline use in 5 cases are presented.

CASES

Between 2008 and 2011, 5 patients taking doxycycline presented with sudden retrosternal pain nad dysphagia and we performed upper gastrointestinal endoscopy and determined esophageal ulcers proba-

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bly related to these drugs. Of the patients, 3 for acne and 2 for infections were taking drugs. They were 4 women and one man. There was no drug and alcohol use in their histories. Only the man was smoker (10 packets year). Their mean age was 26 (18-36) years. Their complaints were severe retrosternal pain and dysphagia just after taking the drug. Ulcers were found to be located at the middle esophagus in 4 patients and lower part in 1 patient. More than one ulcer in 3 patients and one ulcer in 2 were found. One of the latter covered 3 cm of esophagus and was biopsied due to suspicion of malignancy. Pathological study was severe ulcer (Figure 1, 2).

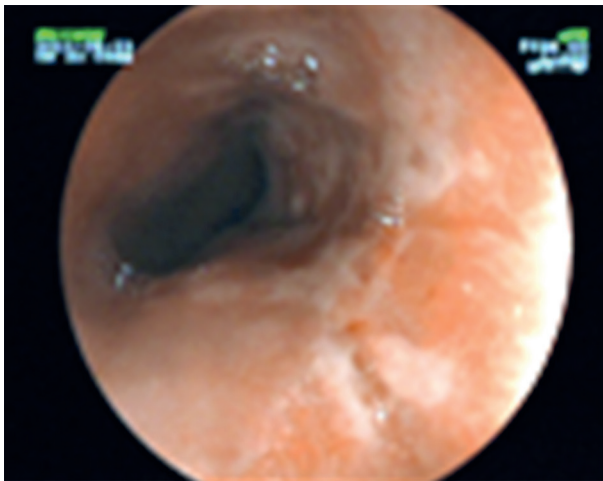


Figure 1. Endoscopic view of the esophageal damage.

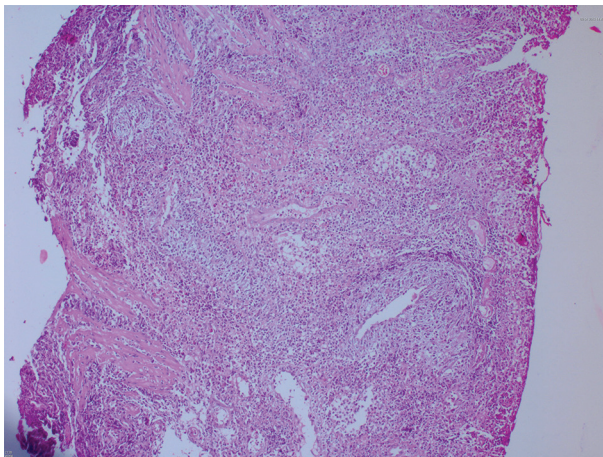


Figure 2. Histopathological section of the ulcer tissue. Histopathological section of the ulcer tissue showed ulceration with a mixed extensive inflammatory infiltrate (HE, $\times 100$).

Doxycycline treatment was discontinued and calcium carbonate+ magnesium carbonate+ sodium alginate and proton pump inhibitors were started. The patients with severe dysphagia were also given a tablespoon of suspension with 10 ml from prilocain 2% before meals. All the patients relieved within 7-10 days. After two months, two patients with suspected malignancy underwent endoscopy and the lesions disappeared. Others did not need the procedure.

DISCUSSION

Majority of the drugs damaging esophagus include tetracycline, doxycycline, clindamycine in addition to anti-inflammatory agents, alendronate, ferrum sulfate, vitamin C were reported [5]. Doxycycline damages directly to esophageal mucosa and acidic components occurring during resolution are responsible for the damage [6]. Factors such as chemical contents, duration of contact to mucosa, volume of the capsul, gelatin cover and individual factors such as esophageal motility disorder, swallowing without water, left atrial dilatation, age, gender are reported to present [7-9].

25-35 year old women taking drugs without sufficient water and sleeping after medication are more frequent [2,7-11]. The patients in our study had history of taking dugs with less amount of water. Esophagus injury due to these drugs occurring at the middle one third part is known [12-14]. In 4 patients of our study, ulcers were serious and at the middle part and in one at the lower part. Most cases of drug induced esophageal damage alleviate in a short time without any intervention. Exact diagnosis and ceasing drugs are important [1]. We stopped the medication in our patients, esophagitis limited, complications did not develop and the patients improved in 7-10 days. Two of them were biopsied on suspicion of malignancy. Control endoscopy was done and nothing abnormally detected.

In the last 4 years, we performed 5500 esophageal endoscopy. We found esophagitis in 1085 patients. Drug induced esophagitis may be omitted unless questioning. We consider the drugs responsible for esophageal ulcers in much more cases.

Doxycycline use can cause esophagus damage in various severity. These damages depend on factors of the individual and the drugs. The severity

of damages increases as the contact duration continues. In the patients using doxycycline, sudden retrosternal pain and dysphagia in especially young or middle aged women, esophagus damage must be kept in mind. Endoscopy for diagnosis should be employed. After confirming the diagnosis, stopping drugs and symptomatic treatment are enough. Endoscopic control is not necessary following treatment. It is emphasized to remind the patients to take medicine with plenty of water.

REFERENCES

1. Zografos GN, Georgiadou D, Thomas D, Kaltsas G, Digalakis M. Drug-induced esophagitis. *Dis Esophagus* 2009;22: 633-637.
2. Jaspersen D. Drug-induced oesophageal disorders: pathogenesis, incidence, prevention and management. *Drug Saf* 2000;22: 237-249.
3. Champel V, Jonville-Béra AP, Béra F, Autret E. Esophageal involvement after tetracycline ingestion. *Therapie* 1997;52:587-589.
4. Jaspersen D. Drug-induced esophageal disorders: pathogenesis, incidence, prevention, and management. *Drug Safety* 2000;22:237-249.
5. Coates AG, Nostrant TT, Wilson JA, et al. Esophagitis caused by nonsteroidal anti-inflammatory medication: case reports and review of the literature on pill-induced esophageal injury. *South Med J* 1986;79:1094-1097.
6. Arısı DS, Göze F, Akbayır N. Doxycycline-induced esophagitis. *Turk J Gastroenterol* 1999;10:1-3.
7. Bott S. Medication-induced esophageal injury: survey of the literature. *Am J Gastroenterol* 1987;82:758-763.
8. Akbayır N, Alkım C, Erdem L, et al. Doksisisikline bağlı gelişen özofageal ve gastrik ülser gelişen bir olgu sunumu. *Turk J Gastroenterol* 2002;13:232-235.
9. Agha FB, Wilson JA, NLostrand TT. Medication induced esophagitis. *Gastrointest Radiol* 1986;11:7-11.
10. Kikendall JW. Pill esophagitis. *J Clin Gastroenterol* 1999;28:298-305.
11. Pinos T, Figueras C, Mas R. Doxycycline-induced esophagitis treatment with liquid sucralfate. *Am J Gastroenterol* 1990;85:902-903.
12. Vălean S, Petrescu M, Cătinean A, Chira R, Mircea PA. Pill esophagitis. *Rom J Gastroenterol* 2005;14:159-163.
13. Kearney DJ, Donald GB. Esophageal disorders caused by infection, systemic illness, medications, radiation and trauma. Pill esophagitis. In: Feldman M, Friedman LS, Sleisenger MH. *Slesenger's & Frodtman's gastrointestinal and liver disease*. 7 th ed. Saunders, Philadelphia 2002:634-345.
14. Faidel DO, Fennerty MB. Miscellaneous diseases of the esophagus. Pill esopesophagitis. In: Yamada T (eds). *Textbook of gastroenterology*. 3 rd. ed. Philadelphia, lippincott Williams & Wilkins 1999:1314-1346.