Penile ulceration due to doxycycline: A case report about fixed drug eruption

Doksisikline bağlı gelişen penil ülserasyon: Fiks ilaç erüpsiyonu ile ilgili bir olgu sunumu

Bülent Katı, Emre Can Polat, Tevfik Sarıkaya

Balıklıgöl Devlet Hastanesi Üroloji Kliniği

Geliş tarihi (Submitted): 11.10.2013
Kabul tarihi (Accepted): 10.03.2014

Yazışma / Correspondence
Op. Dr. Bülent Katı
Şanlıurfa Balıklıgöl Devlet Hastanesi
Üroloji Kliniği - Gaziantep yolu, 63100
Merkez/Şanlıurfa
Tel: 0414 351 25 62–1721
E-mail: bulentkati@yahoo.com

Abstract

The term of fixed drug eruptionis determined as induced lesions on the same site of skin or mucosa after subsequent re-exposure of the same drug. They are usually observed on genital area such as penis. Lesions of fixed drug eruptions vary in size and number, but have the same general appearance and symptoms. Type 4 hypersensitivity reaction thought to be caused.

We evaluated a penil ulceration case related to doxycycline-induced fixed drug eruption in a 38-year-old man.

Key Words: Doxycycline, Fixed drug eruption, Penis

Özet

Fiks ilaç erüpsiyonu terimi, tekrarlayan ilaç kullanımı ile deri ve mukozaların aynı hassas bölgelerinde gelişen lezyonlar olarak tanımlanır. Penis gibi genital bölgede sık gözlemlenirler.

Lezyonların sayısı ve genişliği değişik olabilir ama genel görünüş ve semptomları benzerdir. Tip 4 hücresel hipersensivite reaksiyonu ile oluştukları düşünülür. Doksisiklin kullanımının oluşturduğu 38 yaşındaki erkek hastada, penil ülserasyon olgusunu inceledik.

Anahtar Kelimeler: Doksisiklin, Fiks ilaç erüpsiyonu, Penis

Introduction

Fixed drug eruption (FDE) is an eruption characterized with recurrent limited lesions at the same side or regions each time an offending drug is administered.[1] They are frequently observed on genitelia and especially on penis. The assumed reason is shown as cell mediated late reaction.[2]

Tetracyclines are a well-known cause of FDE. Eventhough, FDE induced by doxycycline has been fairly seldom reported; mostly as cross-reactivity between tetracycline and/or minocycline in the literature.[1-3-4] We report a case of FDE related to doxycycline caused glans penile ulceration without any history of using doxycycline.

Case report

A 38-year-old man attended our urology clinic with penile pain. His history started 10 days ago after doxycycline 100 mg twice daily treatment for prostatitis. A little lession has been appeared on glans penis. Lession became painly and bigger hyperpigmente patches and finally became to penile ulceration. (Picture 1-2)

The patient has not got any dermatologic disase history and trauma. He complained of itching and burning at the same side. There was no pathological finding on

systemic physical examination and laboratory tests. He consulted by dermatology department.

Dermatological examination revealed purplish, hyperpigmented, annular macules ranging between 2 and 3 cm in diameter and ulceration on his glans penis. Because of the localization of the lesions, patch testing was not performed. An oral challenge test to doxycycline with a dose of 100 mg was performed,and erythematous, purplish patches occurred at the sites of near the lesions within 2 hour. (Picture 3) After the diagnosis we stopped his drug and gave him topical steroids and wet medical dressing therapy.

Discussion

Fixed drug eruption is not an uncommon reaction to certain drugs and chemicals. The case was first described in 1894, and since then an increasing number of drugs causing FDE have been reported. [4] The most common drugs inducing FDE are NSAID's, oxyphenbutazone, sulfonamides, phenolphthalein, phenobarbital, and dapson. Tetracyclines are a well-known cause of FDE and it has been thought that cross-sensitivity reactions occur with the tetracycline type of drugs.[1–4]

As fixed drug eruptions are a diagnosis of exclusion, differential diagnoses that need to be excluded include malignancy and precancerous lesions (e.g., erythroplasia of Queyrat), infections (e.g., genital herpes, syphilis), balanitis, dermatoses (e.g., lichen planus, solitary plasmocytoma), trauma, and genital pruritus[5-6]. Biopsy or culture should be considered where a persistent eruption exists to exclude malignancy or confirm another diagnosis[7].

Tham and Kwork noted that there was a higher degree of cross sensitivitiy between tetracycline than between tetracycline and minocycline.[8] On the other hand, there are also reports of the lack of cross-sensitivity between tetracycline and doxycycline.[9] FDE in our patient could not be a cross-sensitivity to other tetracyclines because he did not use any tetracyclines except doxycycline.

Won-Suk Lim, and et al. tried an oral provocation test showed positive results for doxycycline and erythromycin, commonly used antibiotics in livestock farming and in the fishing industry. Because of the antibiotics' thermostability, cooking does not guarantee the elimination of residual drugs.From the patient's history, they concluded that doxycycline and erythromycin contained in the pork and fish that she ate were the cause of the FDE. [10]

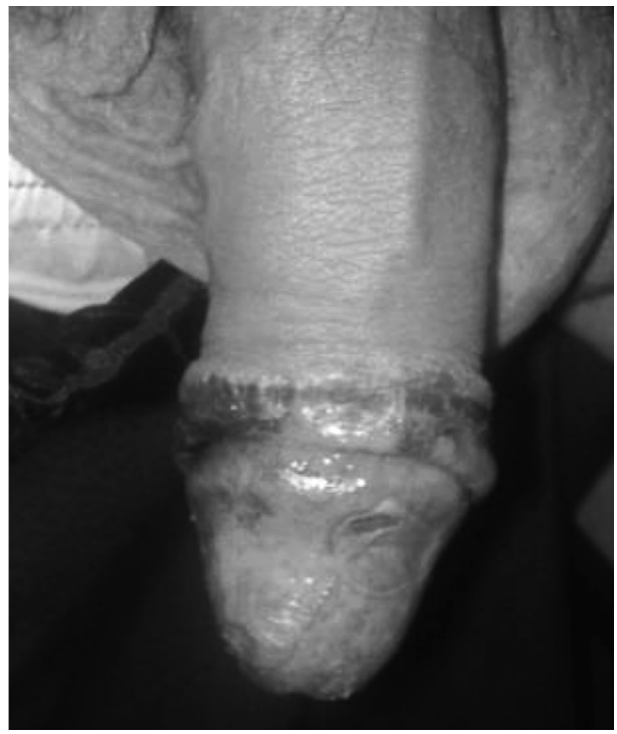

Figure 1. Penile lesions and ulceration.

Dodds and Chi concluded that the epithelium of the glans penis seems uncommonly sensitive to this type of reaction. They reported 3 cases of balanitis secondary to orally administered tetracycline and suggested that there might not be cross sensitivity to doxycycline.[11]

Pandhi and et al. evaluated_different drugs and they concluded that tetracycline, aspirin, metamizole, and trimethoprim-sulfamethoxazole were found to be common etiologic agents. The sites affected were the glans penis, coronal sulcus, and preputial skin. Superficial ulceration or pigmented areas surrounded by an erythematous halo were the main clinical findings at the time of presentation.[12]

We have prescribed doxycycline frequently for a variety of urologic indications such as prostatitits and urinary tract infections.

Genital region skin diseases, especially in the presence with the penis and progressive ulcerative lesions, patient's history is very important. First step of diagnosis to learn about drug use and patients should be consulted with the dermatology department about FDE.

Antibiotics and NSAID's should be ques-

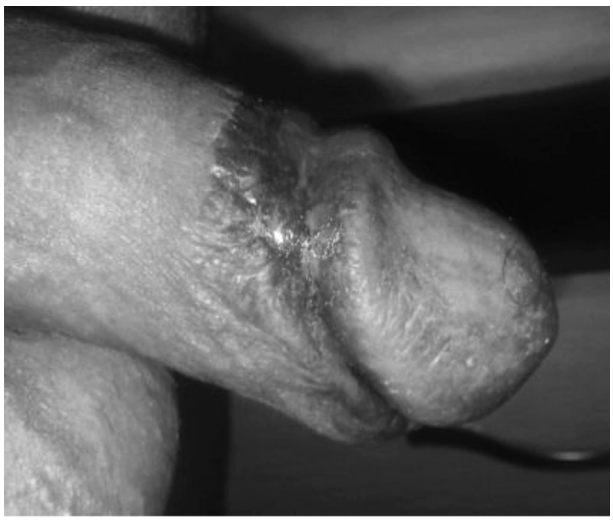

Figure 2. Penile lesions and ulceration.

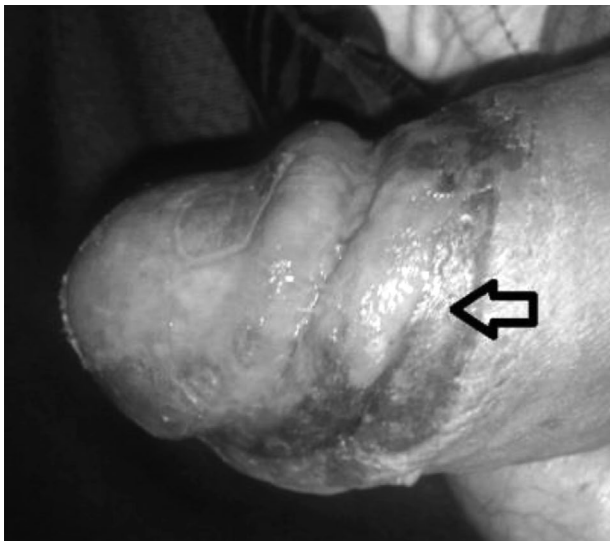

Figure 3. New lesions after oral challenge test to doxycycline. (arrow)

tioned, in the first time The main step in treatment is discontinuation of suspicious drugs. Wet dressings and steroid lotions may be added. In the precense of this type of legions herpes simplex infection and pemphigus vulgaris should be considered in the differential diagnosis.

References

1. Walfish AE, Sapadin AN. Fixed drug eruption due to doxycycline and metronidazole. Cutis 2002;69:207–208.
2. Arisan S. , Ergenekon E. Fixed drug eruptions. Turkiye Klinikleri J Surg Med Sci 2007;3:103-105.
3. Tham SN, Kwork YK. Cross-reactivity in fixed drug eruptions to tetracyclines. Arch Dermatol 1996;132:1134–1135.
4. Delaney TJ. Tetracycline-induced fixed drug eruptions. Br JDermatol 1970;83:357–358.
5. Eichmann, A.R. Dermatoses of the male genital area. Dermatology 2005; 210, 150–156.
6. Alinovi, A., Barella, P.A., and Benoldi, D. Erosive lichen planus involving the glans penis alone. Int. J.Dermatol 1983; 22, 37–38.
7. Goldman, B.D. Common dermatoses of the male genitalia. Recognition of differences in genital rashes and lesions is essential and attainable. Postgrad. Med 2000;108, 89–91, 95–96.
8. Bargman H. Lack of cross-sensitivity between tetracycline, doxycycline and minocycline with regard to fixed drug sensitivity to tetracycline J Am Acad Dermatol 1984;11:900–902.
9. Pasricha JS. Drugs causing fixed eruptions. Br J Dermatol 1979;100:183–5.
10. Won-Suk Lim, Do-Hun Kim, Sang-Yun Jin, et al. A Case of Fixed Drug Eruption Due to Doxycycline and Erythromycin Present in Food, Allergy Asthma Immunol Res 2013;5:337-339.
11. Dodds PR, Chi TN. Balanitis as a fixed drug eruption to tetracycline. J Urol 1985;133:1044-5.
12. Pandhi RK, Kumar AS, Satish DA, et.al. Fixed drug eruptions on male genitalia: clinical and etiologic study. Sex Transm Dis 1984;11:164-6.