Toxic Epidermal Necrolysis Induced by Ofloxacin

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Toxic epidermal necrolysis (TEN) is a severe episodic mucocutaneous reaction due largely to ingested drugs and/or occasionally to infections. TEN presents as sheets of erythema, necrosis and bullous detachment of the epidermis, with a mortality rate of 30–35% (1). The most commonly implicated drugs are sulphonamides, chlormezanone, non-steroidal anti-inflammatory drugs, imidazole antifungals, cephalosporins, anticonvulsants, and allopurinol (2). In contrast, fluoroquinolones, broad-spectrum bactericidal agents, rarely cause severe cutaneous adverse reactions (SCAR) such as TEN and Stevens-Johnson syndrome (SJS). To date, a total of 31 cases of SJS or TEN in which a fluoroquinolone was the offending agent have been reported. Of these, 26 were caused by ciprofloxacin (3), whereas only one was caused by ofloxacin (4). We describe here a patient with TEN induced by ingestion of oral ofloxacin.

CASE REPORT

A 29-year-old woman visited her local hospital for a skin rash and fever (body temperature of 38.5ºC). A targetoid erythematous maculopapular skin rash with bulla was observed on her face, both hands and both feet, with slight erosion of the lips and oral cavity. Prior to presentation, she underwent implantable contact lens insertion surgery at a local ophthalmic clinic and was treated with oral ofloxacin 200 mg 3 times a day for 4 days after surgery. Her symptoms developed 10 days after taking the medication. During this time, she did not take any other medication. Laboratory findings revealed neutrophilic leukocytosis, with normal renal and liver functions. Microscopic urine analysis showed pyuria (white blood cells more than 100/high-power field). No microorganism was isolated from blood or urine culture. She was diagnosed as having hand-foot-mouth disease with acute pyelonephritis and was treated with oral levofloxacin 200 mg for 2 days. However, her skin lesions rapidly spread throughout her entire body and she developed extensive exfoliation of the epidermis with severe mucosal and conjunctival erosions (Fig. 1).

Upon transfer to our allergy clinic, she was immediately diagnosed with TEN and treated with intravenous methylprednisolone 30 mg twice daily for 5 days. However, desquamation and erosion continued to develop over more than 80% of her body surface area, and there was severe mucosal ulceration and conjunctival pseudomembrane. Corticosteroid treatment was stopped, and she was administered intravenous immunoglobulin 2 mg/kg for 3 days, together with intensive skin dressing, parental nutrition, and adequate hydration. Her condition gradually improved, and no further lesions developed. After one month, she received rehabilitation therapy and was discharged without severe complications.

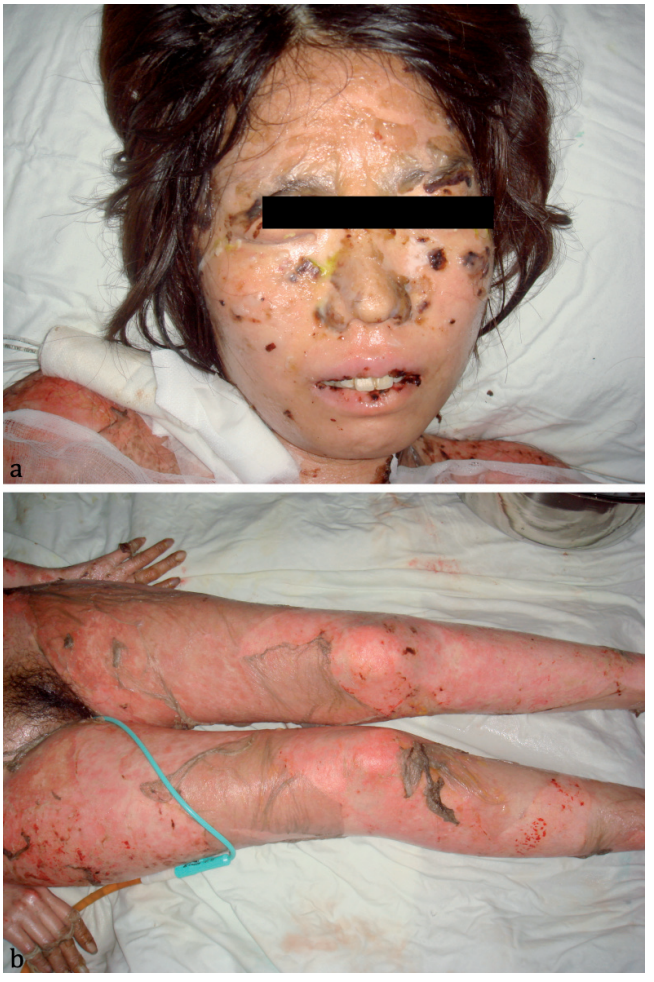

Fig. 1. Detachment of skin bulla on (a) the face and (b) both lower extremities.

DISCUSSION

The risk of death for patients with TEN can be accurately predicted by the TEN-specific severity-of-illness score. We calculated that our patient had a final score of 2 and a mortality risk of 12.1%. Despite the extreme skin desquamation experienced by this patient, covering more than 80% of her body surface area, her

mortality risk was low owing to her young age and good baseline condition.

The frequency of fluoroquinolone use has been increasing owing to their broad antibacterial spectra and few adverse effects. Until now, these drugs have seldom been implicated in patients with TEN, but the incidence of fluoroquinolone-induced SCAR may be on the increase (5, 6).

The development of TEN in this patient may have been initiated by the intake of oral ofloxacin, and the subsequent treatment with oral levofloxacin may have increased her adverse reactions. Had her previous physicians suspected an adverse reaction induced by ofloxacin and refrained from giving levoflxacin, her skin detachment may not have progressed so far. Physicians prescribing fluoroquinolones should consider the possibility of SCAR and explain to their patients the risks of hypersensitivity to these agents.

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