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SHORT COMMUNICATION

Necrotizing fasciitis of eyelid secondary to parotitis

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PURPOSE. *Evaluation of a patient with necrotizing fasciitis of the eyelid spreading from parotid gland.*
METHODS. *Interventional case report. The patient admitted with rapidly progressive swelling, redness, and pain of four eyelids, and whole face. Pathogenic microorganism was searched, laboratory tests were evaluated. Intensive medical treatment and necrotic wound debridement was performed.*
RESULTS. *The patient had been receiving oral cephalosporin at the time she was referred to our hospital, but her infection had spread rapidly under this treatment. In addition to her eyelid necrosis, septic shock developed within 24 hours. No pathogenic microorganism was detected in cultures. The patient responded to intravenous sulbactam ampicillin, surgical debridement of necrotic wound and supportive medical care. Moderate ptosis was the only complication observed in this patient. Reconstructive surgery was not needed.*
CONCLUSIONS. *With prompt antibiotic treatment and surgical debridement, cosmetic and functional success may be obtained in necrotizing fasciitis cases rarely seen with parotid gland origin. (Eur J Ophthalmol 2008; 18: 128-30)*

KEY WORDS. *Eyelid, Necrotizing fasciitis, Parotid gland*

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INTRODUCTION

Necrotizing fasciitis (NF) is a rare and severe soft tissue infection characterized by cutaneous gangrene, suppurative fasciitis, and vascular thrombosis. These infections generally involve limbs, abdominal wall, and perineum. NF of the face and periocular region is uncommon (1, 2).
Infections may spread from the cheek to the eyelids along the fascial planes and, conversely, from the periocular region to the lower face (1). The infection spreads rapidly through tissues and may result in septicemia and death. Early recognition and prompt aggressive medical and surgical intervention are critical for proper management of this serious condition (1-3).

Case report

A 78-year-old woman was admitted to our center with rapidly progressive swelling, redness, and pain of all four eyelids and face. The swelling and redness was reported to originate from the left cheek. On physical examination, bilateral upper and lower eyelids and left cheek were edematous, tender, and erythematous. A region involving the medial two thirds of the left upper eyelid was pale due to hypoperfusion and this region became necrotic within 3 days (Fig. 1). Due to previous oral antibiotic treatment with a third-generation cephalosporin, blood culture and wound culture specimens obtained on a number of occasions yielded no

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pathogenic agent.

Results of laboratory examination were remarkable for a leucocyte count (WBC) of 43.5×10^9/L (with a predominant neutrophilia), elevated erythrocyte sedimentation rate (ESR), antistreptolysin O (ASO), and C reactive protein (CRP) levels. Computed tomography (CT) revealed inhomogeneity and inflammation of parotid gland. Swelling of cutaneous and subcutaneous tissues and muscle planes extending to the base of the mouth from the left periorbital region was also demonstrated (Fig. 2, left, right). Based on this clinical picture, NF was diagnosed and treatment with ampicillin and sulbactam combination (1000 mg/day IV qid) was started. During initiation of treatment, hypotension, acute renal failure, heart failure, and anemia developed as a result of septic shock. The condition of the patient improved 24 hours after starting the antibiotic treatment. Wound care consisted of bedside debridement of necrotic tissues after autodemarcation, periodic irrigation with saline solution and hydrogen peroxide, and frequent wet-dry dressing changes. The surface of the wound healed by secondary intention with granulation tissue. Results of microscopic examination of the excised tissues showed focal necrosis and fibrosis in subcutaneous tissue. The patient was discharged on the 21st day of treatment on oral ampicillin. Twenty days after discharge, she was readmitted with swelling of the left cheek due to noncompliance with treatment. Parotid gland ultrasonography revealed hyperechogenicity and volume increase. Sialolithiasis was not observed in ultrasonography. Her condition improved with oral fluoroquinolone treatment. Two months later, her examination was notable for ptosis (Fig. 3). She also could not elevate her left brow due to partial left facial nerve palsy. The patient deferred any further surgery.

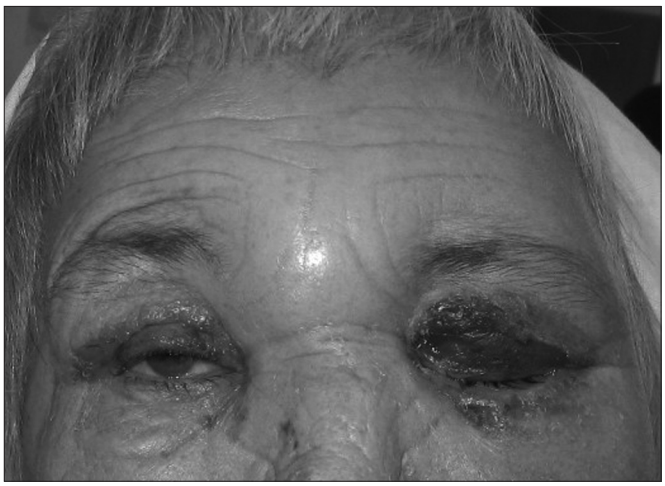

Fig. 1 - *Upper and lower eyelids were edematous and erythematous. Left upper eyelid contained necrotic areas with crusting. Swelling and redness originating from left cheek extended to the face and to the eyelids.*

DISCUSSION

NF is widespread necrosis of superficial fascia. It may rapidly spread to peripheral tissue and may cause systemic toxicity in the progress of disease. NF seldom involves the face. Precipitating factors may in-

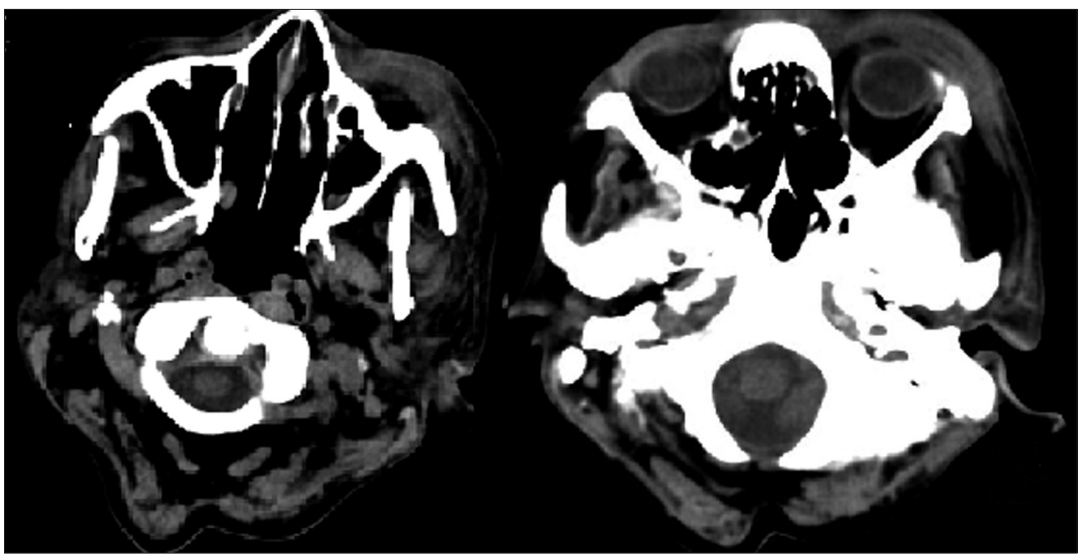

Fig. 2 - Left: *Axial noncontrast computed tomography (CT) scan demonstrated inhomogeneity and inflammation of the lateral masticator space, parotid space, and partially anterior carotid space.* **Right:** *Axial noncontrast CT scan at the level of orbital region shows periorbital, facial, temporal diffuse thickening and infiltration of the skin and subcutaneous tissue.*

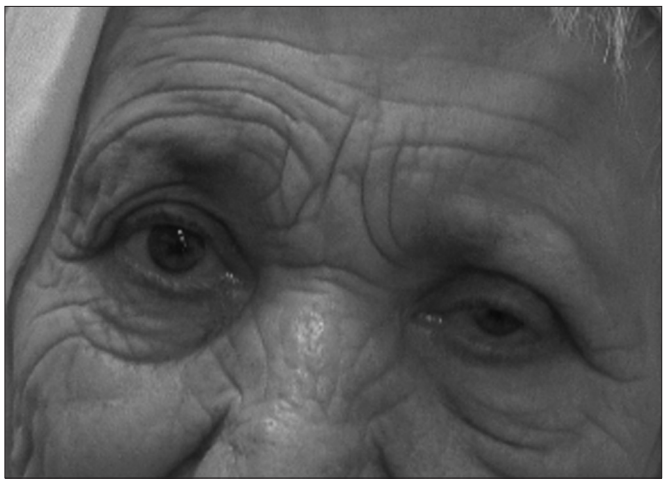

Fig. 3 - *Patient with complete recovery of infection and moderate ptosis. She could not elevate her left brow.*

clude surgery or other trauma, or there may be no apparent cause (2, 4, 5). Our patient did not report any trauma or surgical history.

Infections may spread from the cheek to the eyelids along the fascial planes and, conversely, from the periocular region to the lower face (1). One case that probably occurred secondary to parotid gland infection was described in 1983 (6). The first case of craniocervical NF due to parotid gland abscess was described in 2003 (7). We considered our case to spread from parotid gland because of the following: 1) appearance of the infection first in parotid region, 2) recurrent parotitis after early cessation of antibiotics, 3) development of partial facial paralysis possibly due to involvement of branches passing through parotid gland, 4) CT sections confirming parotitis.

Facial necrosis, undermining of skin, involvement of primarily face and neck, and histopathologic evidence of necrotizing inflammation in our patient confirmed the criteria described by Panda et al for NF (3). Initial treatment of NF consists of prompt, intensive intravenous antibiotics and early surgical debridement (1-8). We followed our patient conservatively with intense antibiotic treatment and debridement, and the patient recovered completely. Complications like blindness due to ophthalmic and central retinal artery occlusion, lagophthalmos, lid scarring, cicatricial ectropion, and epicanthus were not observed in our patient. However, she developed ptosis secondary to nerve involvement.

Proprietary interest: None.

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