Aetiology and clinical features of facial cellulitis: a prospective study

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Background: In the early 20th century, the face was the predominant site of cellulitis. Despite a relative decrease of facial cellulitis since, this condition is still common. Contemporary data on this topic is scarce, however. The aim of this study was to look into the aetiology, clinical characteristics, treatment and outcome of patients hospitalized with facial cellulitis.

Material/methods: Patients admitted to hospital with non-suppurative cellulitis of the face were prospectively included. Patients with abscesses, impetigo or animal/human bites were excluded. Clinical details, comorbidities, and biochemistry results were recorded. Cultures of blood and skin swabs, resistance testing of pathogens and measurements of anti-streptolysin O (ASO) and anti-deoxyribonuclease B (ADB) in acute and convalescence serum were performed.

Results: A total of 65 patients were included. Serology, microbial identification and response to penicillin monotherapy indicated definite or probable β-haemolytic streptococcal (BHS) aetiology in 75% (49/65) of cases. Significant comorbidities were present in 54% (35/65). Fever, chills or rigor before or at admission was noted in 91% (59/65). Patients presented most often with sharply demarcated erythema with raised borders (84%).

Forty-one of 65 patients (63%) were treated with narrow-spectrum β-lactam antibiotics (penicillin or penicillinase-resistant penicillins) alone, including penicillin monotherapy that was given in 48% (31/65) of cases. Clindamycin monotherapy or in combination with other antibiotics was used in 32% (21/65), but 12 of these 21 cases only received clindamycin as a supplementary antibiotic for 1-3 days. Clindamycin use was associated with non- BHS infections (P= 0.003).

The median duration of hospitalization in this cohort was three days (range 1-8 days). Only one readmission and three other cases needed a second course of antibiotics. Few complications were
noted; 14.5% (9/62) experienced transient diarrhoea, only one had confirmed *Clostridium difficile* infection. There were no cases with cerebral venous sinus thrombosis and no mortalities.

**Conclusions:** To our knowledge, this study is the largest prospective study of non-suppurative cellulitis of the face. BHS still are the leading causes of facial cellulitis. Most patients had systemic symptoms and local findings normally defined as typical signs of erysipelas. Narrow-spectrum β-lactam antibiotics seem sufficient as the initial therapy of choice. Short hospital stay, low recurrence rates and few complications were seen.