Cervicofacial actinomycosis in Saint-Petersburg, Russia

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Objective

To study risk factors, clinical features, and treatment efficiency of cervicofacial actinomycosis in Saint Petersburg, Russia.

Methods

In prospective (2005 – 2014 yy.), single-center study were included 162 patients with different clinical forms of actinomycosis. There were 65 patients with cervicofacial actinomycosis (40%). Men were 58%, median age – 47 ± 3 y (25 – 74). The diagnosis was based on histological and/or microbiological examination. In the control group were included 63 patients with nonspecific inflammatory processess of cervicofacial region.

Results

Main predisposing factor was maxillofacial trauma - 38% (OR=5.938 [2.2-15.8]).

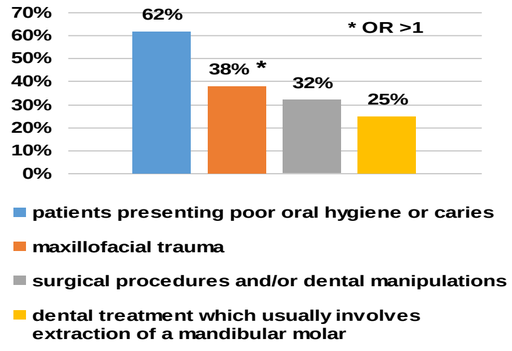

Fig.1. Predisposing factor for cervicofacial actinomycosis

Sites of infection: mandible - 49%, maxilla - 18%, subcutaneous tissues - 48%, pharyngeal tonsils - 6%, paranasal sinuses 5%, tongue - 5 %.

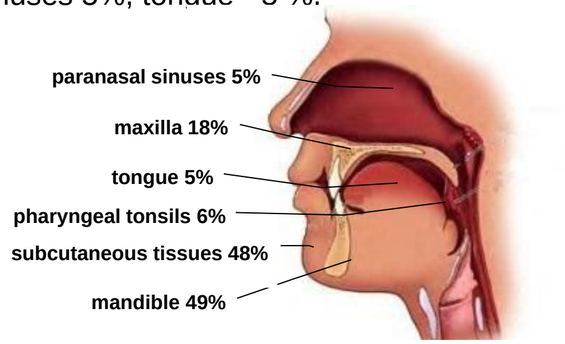

Fig.2. Sites of infection

Osteomyelitis was in 53% patients ($p<0.05$).

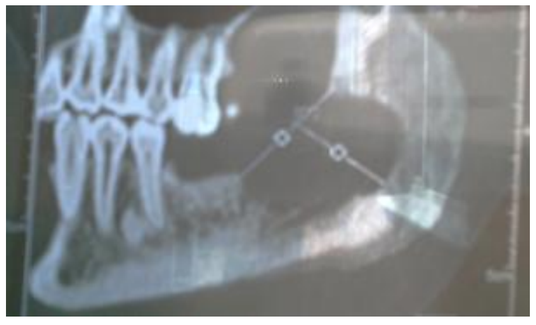

Fig.3. Osteomyelitis mandible

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Median duration of the disease before diagnosis was 6 ± 2 months (2 – 24). Signs and symptoms were non-specific: progressive swelling of soft tissues (66%), erythema (52%), pain with tension around the mass (58%), low grade fever (29%), and lymphadenopathy (16%) (Fig. 4).

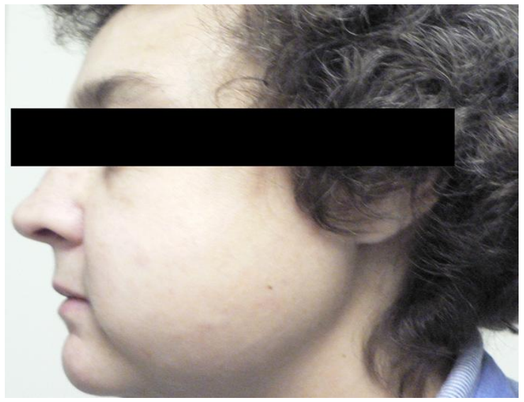

Fig.4. Progressive swelling of soft tissues

Draining sinuses were observed in 63% cases.
In 76% cases diagnosis was based on histology of operational material or biopsy.

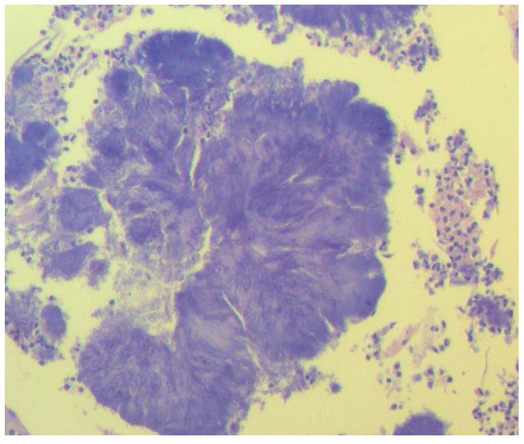

Fig.5. The inflammatory reaction in actinomycosis is suppurative, with formation of abscesses that contain "sulphur granules"

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The etiology agents were *A. israelii* – 46%, *A. odo*ntolyticus – 31%, *A. naeslundii* – 11%, *A. viscosus* – 6%, *A. bovis* – 3%, *and A. meyeri* – 1%.

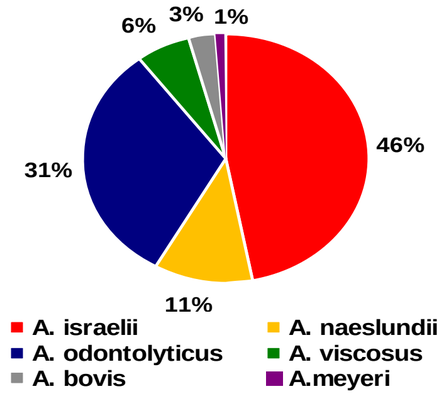

Fig.6 Etiology of actinomycosis

All patients were treated with iv penicillin (12-24 million units per day) for 2 weeks, followed by oral amoxicillin 1,5-2 g/day. The median duration of antibiotic treatment of patients with osteomyelitis was 8 ± 6 months, without osteomyelitis - 3,5 ± 3 months. Surgery was used in 32% patients. Efficiency of treatment was 97%.

Conclusions

Cervicofacial actinomycosis made 40% of all cases of the disease. Trauma (OR=5.938[2.2-15.8]) was most common predisposing factor. *Actinomyces israelli* was main pathogen. Long-term antibiotic therapy plus surgery were effective in 97% patients.

26th ECCMID Amsterdam, Netherlands 9 – 12 April 2016
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EV0753