

Original Research

Submandibular abscess of dental origin and its evolution, in immunosuppressed and non-collaborated patients. Clinical case

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Abstract

We present a case of a 36-year-old female patient with type 2 (non-insulin-dependent) diabetes mellitus, who was admitted urgently to the ER service accused the following signs and symptoms: asymmetry of the face with Celsus signs present at the submandibular on the right side, trismus, febrile syndrome. The clinically conscious patient refuses hospitalization, therefore it was the reason for leaving the ER (emergency room) with oral treatment, and a recommendation to perform a dental consultation as soon as possible. Surgical intervention is performed, with multiple incisions, both external and endo-oral incisions, with the collection of secretion for culture (no germs have grown). Medical treatment drugs parenteral antibiotics, oral anti-diabetics, and insulin was administered continued. The purpose of the paper was to highlight patient compliance and cooperation. In our case, delaying the discharge of an abscess, by about 48 hours with an uncooperative patient with diabetes, led to multiple complications and prolonged hospitalization.

Keywords: submandibular abscess, diabetes mellitus, immunosuppression.

Introductions

The cervicofacial region is frequently affected by suppurative processes. The anatomical forms are acute, chronic cellulite (or chronic inflammation cellulite), abscess, and phlegmon. Cellulite is the expression of inflammation, it is characterized by vasodilation. Clinical examination shows a swelling sensitive (sensitivity) to palpation, but without areas of fluctuation [1, 5].

The abscess is the expression of a limited supuration, the clinical examination marking the appearance of fluctuation. The overlying

skin is relaxed, erythematous, and the general condition becomes altered, with fever, tachycardia. Phlegmon has the clinical characteristics of an abscess, but it is an extensive suppuration, with no clear limits in relation to the neighboring (surrounding) tissues. Clinically, a massive, hard, fluctuating, or crackling swelling is detected [1, 5].

Infections of the cervicofacial area are at the border of the areas of competence of ENT and oral maxillofacial surgery, the correct, complete, and coherent management most frequently requiring the contribution of specialists from both branches of surgery [1-3, 5].



Classification of cervicofacial suppurations will be done mainly in relation to the affected anatomical area. A classification as complete as possible contains [1–3, 5, 6]:

1. Bone infections - osteoperiostitis, osteitis, osteomyelitis (acute suppuration, conical suppuration, and un suppuration), osteonecrosis
2. Dangerous space - mandibular body, palatal space, vestibular space
3. Lymphadenitis
4. Necrotizing (fasciitis)
5. Infections and suppurations of the facial spaces
 1. Maxillary space
 2. Mandibular space (sublingual, submandibular, submental)
 3. Masticatory space (masseter, pterygo-mandibular, temporal)
 4. Pharyngeal space (periamygdalian, retropharyngeal, lateropharyngeal, prevertebral phlegmon, phlegmonous lingual periamygdalitis, epiglottis abscess)
 5. Localized abscesses (tongue, orbit)
 6. Diffuse suppurations (phlegmon of the buccal floor, diffuse hemi-facial phlegmon, and diffuse phlegmon of the pharynx - Senator's disease)
 7. Specific infections (actinomycosis, syphilis, TB)
 8. Abscessed malignant/benign tumors

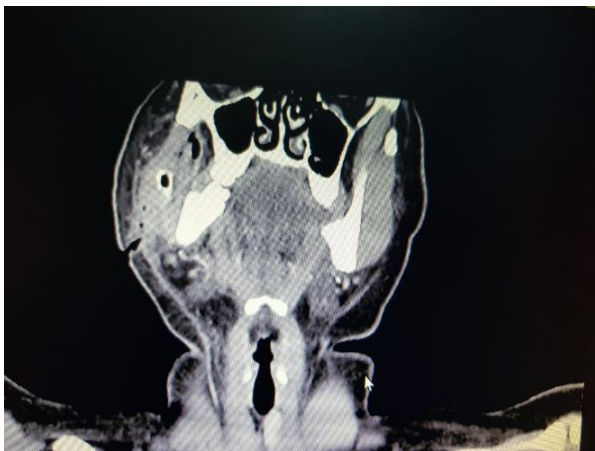


Figure 1:

CT images of the patient within the archiving program of the radiology department to the Oradea County Emergency Clinical Hospital.

Etiopathogenesis

Etiopathogenesis involves multiple starting points for cervicofacial suppurations in general and laterocervical (parapharyngeal) in particular. The most common are dental foci, both dento-periodontal pathology and complications of anesthesia and dental interventions [1, 4–6].

Other cited causes are foreign bodies including pharyngeal, trauma, salivary gland stones, benign, or malignant tumors superinfected and abscessed, but also pharyngeal-tonsillar infections, neglected, incorrectly treated or under immunosuppression [1, 3–5].

The pathogenic flora involved is a polymorphic one, the infections being in the proportion of over 85% plurimicrobial infection, most frequently the beta-hemolytic *Streptococcus*, *Staphylococcus aureus*, and *Pseudomonas aeruginosa*. The germs involved are predominantly aerobic [1, 5, 6].

Material and method

Clinical case

We present the case of a 36-year-old female patient known to have type 2 (non-insulin-dependent) diabetes mellitus, who presents urgently in the ER accusing the following signs and symptoms: asymmetry of the face with



Figure 2:

	1	3	7	10	13	15
GLYCEMIA (82–120 mg/dl)	277 mg/dl	237 mg/dl	164 mg/dl	153 mg/dl	147 mg/dl	142 mg/dl
WBC (4.00–10.00 10 ³ /ul)	12,47 10 ³ /ul	10 10 ³ /ul	8,545 10 ³ /ul	6,819 10 ³ /ul	6,541 10 ³ /ul	6,415 10 ³ /ul
NEUTROPHIL (2.40–6.5 10 ³ /ul)	10 10 ³ /ul	7,764 10 ³ /ul	5,939 10 ³ /ul	3,879 10 ³ /ul	3,389 10 ³ /ul	3,357 10 ³ /ul

Figure 3.1:

the presence of local submandibular Celsus signs on the right side, trismus, febrile syndrome. Clinically conscious patient, refuses hospitalization, therefore of the reason for leaving the ER with oral treatment and the recommendation to perform a dental consultation as soon as possible.

Returns to the ER in about 48 hours with marked edema of the right hemifete and right later cervical, moderate respiratory failure, Celsus signs mark present on the right laterocervical.

Emergency CT examination that reveals the presence of a right laterocervical collection with diffusion to the amygdala lodge and the lateral wall of the pharynx on the right side, as well as marked cellulite in the right hemifete.

Surgical intervention (Fig. 1 pre-operator, Fig. 2 post-operator) is performed, with multiple incisions, both external and endo-oral incisions, with the collection of secretion for culture (no germs have grown). Medical treatment drugs parenteral antibiotics, oral anti-diabetics, and insulin was administered continued.

Interdisciplinary diabetology consultation is requested in order to regulate glycemic values (insulin and oral anti-diabetics) because the patient does not follow the 200 HC/day regimen and was not compliant with the treatment with oral anti-diabetics. Due to neglected diabetes at home, the patient’s evolution in the first week was critical with high glycemic values and active supurations from one day to the next, requiring additional incisions both externally and endo orally. After the glycemic values below 200 g/dl were successfully established, the patient’s condition began to stabilize and the drainage tubes were reduced.

Purpose

The purpose of the paper was to highlight patient compliance and cooperation. If the

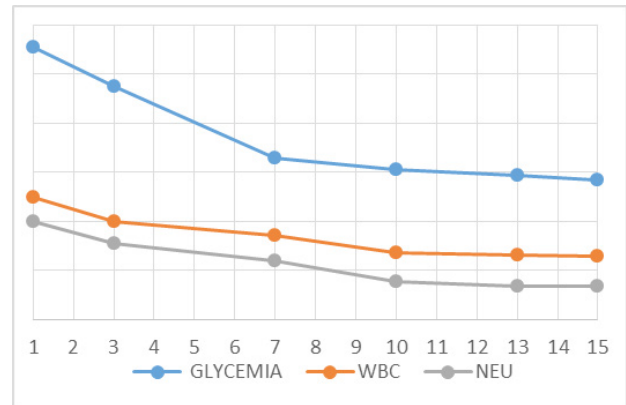


Figure 3.2:

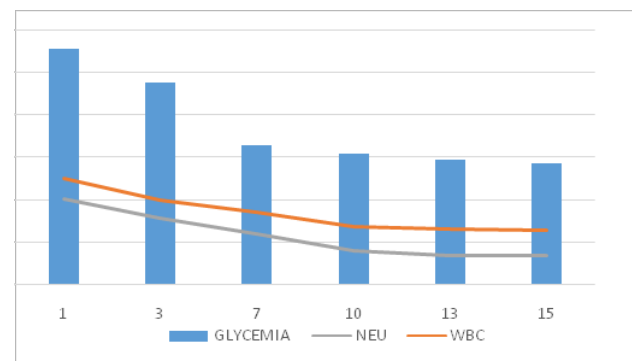


Figure 3.3:

patient was cooperating from the first presentation in the emergency room, it probably did not take more than 4 weeks of hospitalization, just as if diabetes was kept under control. The 48 hours that made it impossible to drain the abscess led to at least 20 extra days of hospitalization due to complications (diabetes).

Result

The patient’s evolution is favorable, after a hospitalization period of 4 weeks.

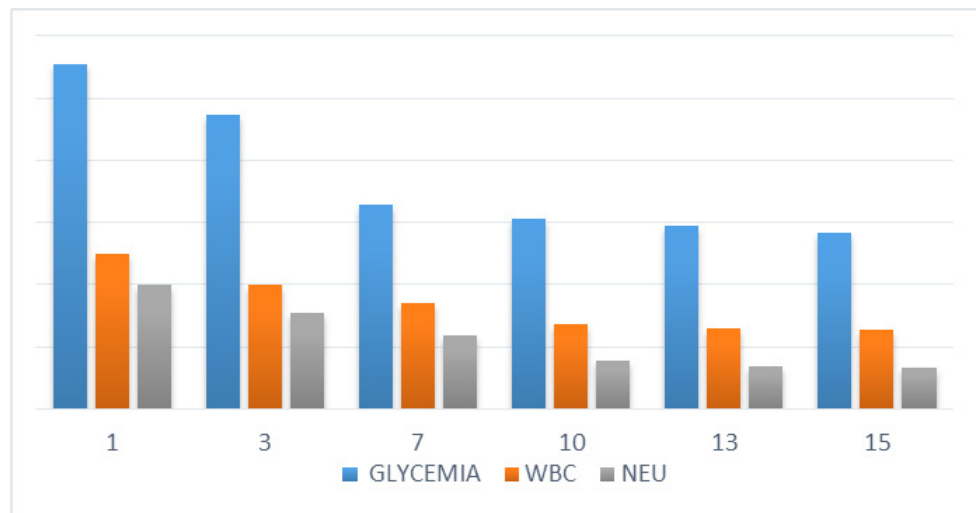


Figure 3.4:

We find a strong and positive correlation between glycemic values and the white blood cell values not just clinically, but statistically too $r=0.9721$ (Figs.3.1–3.4).

Conclusion

Delaying the discharge of an abscess, in our case by about 48 hours in an uncooperative patient with diabetes, led to multiple complications and prolonged hospitalization.

Poor glycemic control increases the risk of infection, diabetes neuropathy and impaired innate and adaptive immune responses.

The formation of a multidisciplinary ENT team - oral-maxillo-facial surgery - diabetology led to favorable results.

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