

# Acute life-threatening Infections of the Head&Neck Region

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## Background:

Highly acute oro-dentogenic infections with rapid dissemination – like in the case of necrotising fasciitis (NF) or a phlegmonous deep neck infection (DNI) occur very rarely. However, they require immediate therapeutic intervention. Especially in the case when the immune system is weakened (diabetes mellitus, immuno-suppressive pathologies, etc.) they correspond with high morbidity and mortality.

## Goals:

It is crucial to understand the disease progress and to be familiar with deep neck spaces and fascial planes. Despite advanced surgical treatment, deep neck infections and even more necrotising fasciitis can have poor outcome due to their common and potentially life-threatening complications: airway obstruction, descending mediastinitis and sepsis. Knowledge about fast treatment, airway security, efficient drainage, debridement and appropriate antibiotics is essential.



Patient 2 – preoperative and postoperative

## Methods:

Three exemplary cases were chosen to outline disease progression including life-threatening complications and therapeutic intervention.

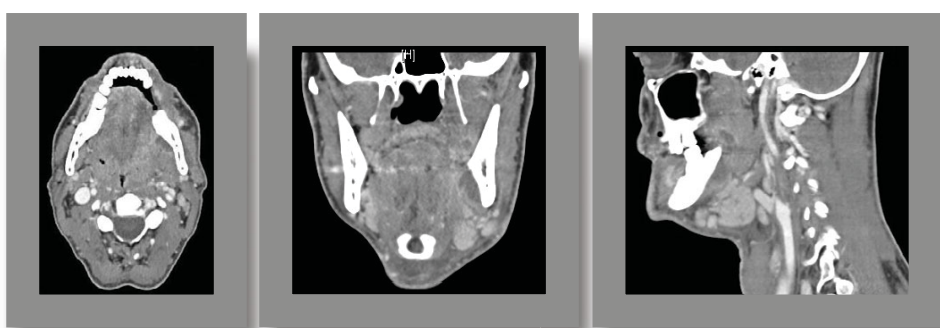
Patient 1: DNI due to abscess with dental focus 37

Patient 2: NF due to necrotising cutaneous metastasis of a squamous cell carcinoma (SCC) originating at the bottom of the mouth.

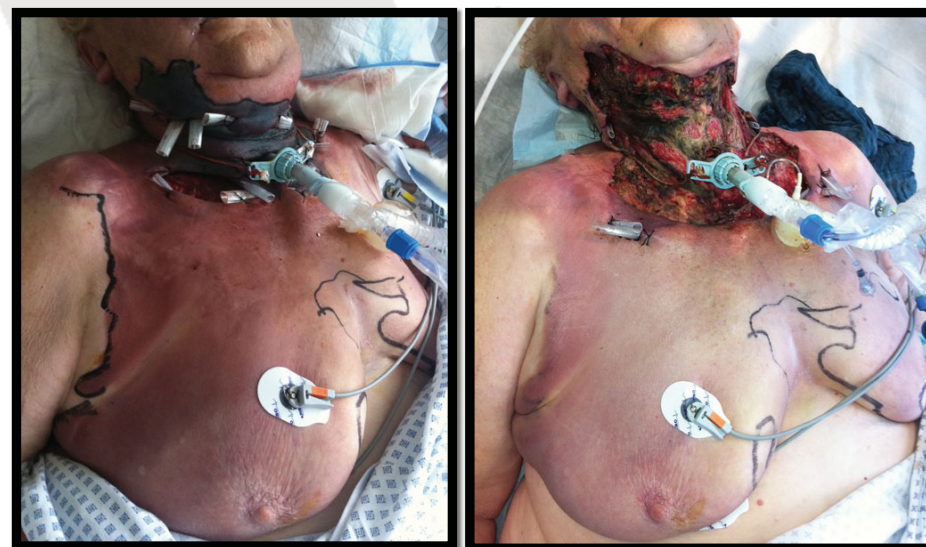
Patient 3: NF with unclear focus in the head&neck region and immunosuppression due to DM type II



Patient 2 – CT scan



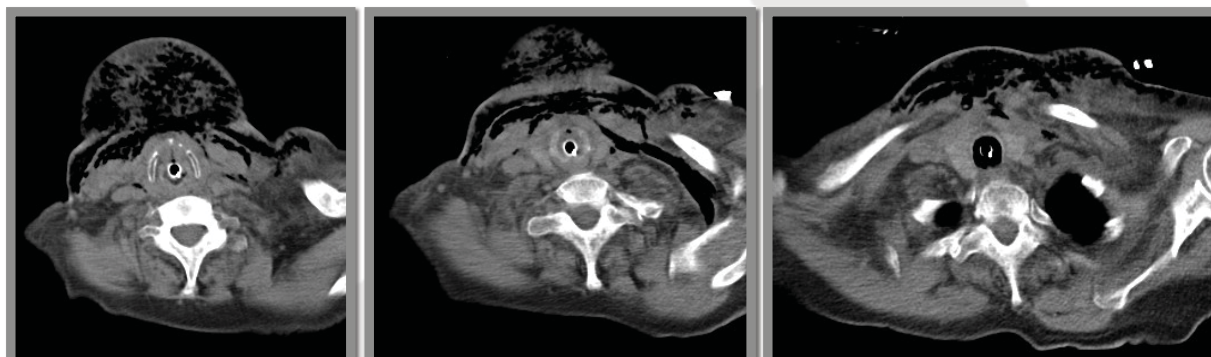
Patient 1 – CT scan



Patient 3 – after first and second operation

## Results:

After being admitted to the emergency room all patients received full surgical therapeutic intervention (large scale debridement, airway security through tracheotomy, as well as extensive antibiotic treatment). Despite immediate referral to the intensive care unit 2 out of 3 patients passed away.



Patient 3 – CT scan

## Conclusion:

Even rapid and radical surgical intervention accompanied by antibiotic treatment does not guarantee higher survival rates in case of NF and DNI. Early diagnosis is crucial. Despite this radical treatment the prognosis remains poor and has not improved significantly over the last 50 years. No evidence-based proof exists regarding the effectiveness of further adjuvant therapy options such as hyperbaric oxygenation. However, if available, they should be administered as ultima ratio.