

A Fatal Manifestation of Infection- Necrotizing Fasciitis of Neck**Erhan Bozkurt M.D**

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Abstract: Necrotizing fasciitis infection (NFE) is a disease characterized by the rapid spread of necrosis of soft tissues and fascias and can be mortal if not properly treated. Predisposing factors include immunosuppressive factors such as diabetes mellitus, alcoholism, liver cirrhosis, hypertension, chronic renal failure and malignancy. Necrotizing fasciitis is rarely localized in the head and neck region. In this study; we presented a case of necrotizing fasciitis in neck region, which we had followed in our clinic with predisposing factors of diabetes and chronic renal failure.

Keywords: Necrotizingfasciitis, neck

INTRODUCTION

Necrotizing fasciitis infection (NFE) is a bacterial infection that can be characterized by necrosis of the skin, subcutaneous tissues, and fascias, which may be fatal, rapidly progressive, and rare. Due to the absence of specific symptoms at the onset of the disease, it is possible that the patient could be misdiagnosed by clinically inexperienced doctors. This condition delays the diagnosis of the disease and increases the high rate of morbidity and mortality. Systemic toxicity resulting in high mortality can only be prevented by early diagnosis, broad spectrum antibiotics and surgical intervention. Predisposing factors include immunosuppressive factors such as diabetes mellitus, alcoholism, liver cirrhosis, hypertension, chronic renal failure and malignancy.

Necrotizing fasciitis is rarely localized in the head and neck region. In this study; we presented a case of necrotizing fasciitis in neck region, which we had followed in our clinic with predisposing factors of diabetes and chronic renal failure.

CASE REPORT

A 61-year-old woman with diabetes and chronic renal failure presented with fatigue and fever that started four days ago, reddening at the site of the right catheter slowly progressing over the last 2 days, swelling in the anterior neck region, and sore throat. There were the use of insulin for diabetes and hemodialysis three times a week with right subclavian venous catheter for renal failure in patient's medical history. Her general condition was moderate. There was swelling, redness and tenderness in bilateral submandibular areas, more on the right side, of the patient's examination. There was redness in the skin around the catheter. The oral hygiene of the patient was bad. The patient was hospitalized. On neck and thorax tomography of the patient, common air values extending from the mouth base to parapharyngeal area extending from the submental area to the hyoid bone were observed (Figs. 1 and 2). Clinically and radiologically, NFE was considered. Weurgently called for otorhinolaryngology consultation for neck exploration and tissue debridement. Patient underwent surgery under general anesthesia. Necrotic materials in the neck structures were debrided until bleeding and malodorous meconium in meat juice consistency was observed during operation. Following the operation in postoperative intensive care unit, Penicillin G 6000x4 units and clindamycin 900x2 mg IV were started with the recommendation of infectious diseases specialist. Daily wound debridement was done. However, the case was exacerbated on the 4th day as a result of septic shock and multiple organ failure.

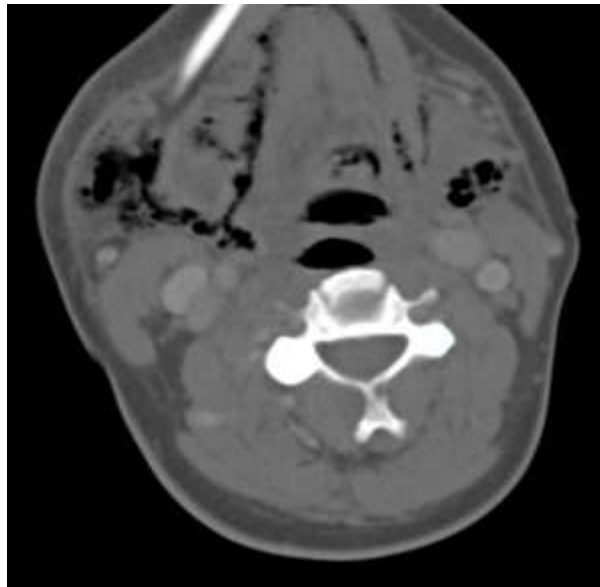


Fig-1: CT scan of patient showing air values



Fig-2: CT scan of mediasten

DISCUSSION

Necrotizing fasciitis infection (NFI) is a disease characterized by the rapid spread of necrosis of soft tissues and fascias and can be mortal if not properly treated. The incidence is 0.4 in 100 thousand cases [1, 2]. Although the NF was first described by Baurienne in 1764, after the description of Jean Alfred Fournier in 1883, the external genital organs and the fascia table holding the perineum began to be referred to as "Fournier gangrene". Meleney had isolated hemolytic streptococci as an etiologic agent. It was first named "necrotizing fasciitis" by Wilson in 1952. Wilson also described the main findings of the disease in the form of inflammation, necrosis of the deep fascia and subcutaneous adipose tissue and muscle preservation [3].

NFE is most commonly seen in abdominal wall, perineum and extremities [4]. However, it is rarely seen in the head and neck region [5]. It has been reported that on the basis; odontogenic infections of the head of the head, abrasions and lacerations in facial or scalp, pinna pericondritis, furuncles, mandibular fractures, tracheotomy, radiotherapy, gunshot injuries and neck trauma could be counted [5].

NFE develops mainly in cases with chronic illness or immunodeficiency. Risk factors for NFE are diabetes, advanced age, obesity, peripheral vascular disease, cancer, immunodeficiency, debility, hypoalbuminemia, corticosteroid use, chronic alcoholism, malnutrition, intravenous drug dependence, burns [6].

There are some risk factors that prepare the ground for NFE. In particular, the immunodeficiency table poses a significant risk to the patient. The most common comorbid disease of NF is diabetes. In the literature, diabetes has been reported in 60% of patients [7]. Other risk factors for NF include chronic renal failure, obesity, peripheral vascular disease, intravenous drug use, alcohol dependence, smoking, chronic heart disease, chronic corticosteroid use, chronic immunosuppression, cancer and advanced age [8-13]. In our case, diabetes and chronic renal failure were also present. The redness around the catheter made us think that the infection source is this area.

The most important factor in the treatment of NFE is early diagnosis. Diagnosis is basically based on clinical findings. In fact, it is most important that the physician evaluating the patient is suspicious of the NFE. Appropriate radiological examinations should be requested in a timely manner so that the size of the disease and the airway of the patient can be accurately assessed. These include standard radiographic examinations and computerized tomography (CT) examinations. Subcutaneous gas and abscess formation can be seen with CT. Even if CT imaging does not show definite pathology, surgical intervention can be performed based on clinical findings [14]. Surgical treatment requires extensive fasciotomy incision and exploration of facial planes and drainage and excision of all necrotic tissue [14]. In medical treatment, fluid and electrolyte replacement with wide spectrum antibiotics is required [14]. Surgical exploration was performed, necrotic tissues were daily debrided and antibiotherapy was started for our patient.

Early diagnosis and treatment of NFE is the most important factor determining morbidity and mortality. Mortality ranges from 7% to 73% [15, 16].

Even with proper treatment, the pathological process may result in vascular complications of lethal potential due to involvement of deep tissues, mediastinitis, and septicemia, which can lead to multiorgan failure [17]. Conditions such as diabetes and chronic renal failure, which cause immunosuppression, may be both predisposing and mortality enhancing factors as they were in our case.

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