

Skin and Soft Tissue Infections in the Surgical Area at the Kara Teaching Hospital

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Abstract

Objective: To report the management of skin and soft tissue infections in the surgical area of Kara University Hospital in Togo. **Material and Methods:** This study was conducted retrospectively from January 1, 2021, to December 31, 2022, in the general surgery and orthopedic trauma departments. The study focused on soft tissue infections of the pelvic and thoracic limbs and analyzed epidemiological, clinical, paraclinical, therapeutic, and evolutionary data. **Results:** We registered 165 patients, comprising 109 men and 56 women. The sex ratio (F/H) were 0.51. The mean age was 45 years with extremes ranging from 23 to 90 years. Farmers (64.8%) followed by housewives (34.0%) were the social strata most affected. The consultation period varied between 1 and 90 days. The pathologies found were necrotizing fasciitis (53.3%), erysipelas (18.2%), infected limb wounds (12.1%), pyomyositis (9.7%), and necrotizing dermo-hypodermatitis (1.8%). The main procedures performed were necrosectomy and grafting (62.9%), sample necrosectomy (18.8%), drainage (9.7%), and pelvic limb amputation (1.2%). Follow-up was favorable in 86.7% of cases. The study noted a death rate of 13.3% due to septic shock secondary to a delay in consultation. **Conclusion:** Skin and soft tissue infections were a common reason for surgical hospitalization at Kara University Hospital, with a high mortality rate due to delayed consultations.

Keywords

Skin and Soft Tissue Infections, Necrotizing Fasciitis, Erysipelas, Emergency

1. Introduction

Skin and soft tissue infections are quite common in surgical practice and their incidence is increasing with time [1]. This is because the germs involved are spreading throughout the world and are becoming resistant to antibiotics. Additionally, natural disasters, wars, assaults, and accidents are becoming more frequent and are responsible for serious skin and soft tissue injuries that predispose to infections [2]. These infections are varied and frequent reasons for hospitalization in Kara (Togo). The management of these infections are difficult in our area because the patients consult late at stage of complications and the lack of means to eradicate the resistant germs involved responsible to high mortalité [3] [4]. This study was conducted on skin infections in 2018 in Kara teaching hospital but not on soft tissues [3]. The aim of this study was to determine the different types of skin and soft tissue infections observed in our practice and report our experience in managing them.

2. Material and Methods

This is a descriptive cross-sectional study that was conducted between 01/01/2021 and 30/06/2022, covering a period of 18 months. The study was carried out in the General Surgery and Traumatology-Orthopaedics departments of Kara University Hospital, focusing on patients with skin and soft tissue infections.

Only patients with complete files were included in the study, while those with perineal and external genital pathologies were excluded. The study analyzed epidemiological (frequency, age, sex, occupation), clinic (risks factors, pathologies, topography,), paraclinic (blood count, radiological examination) and therapeutic (medical treatment, surgical procedure,) and outcome (morbidity, mortality, hospitalization) data.

3. Results

We recorded 165 patients out of a total of 1239, representing a frequency of 13.3%. The patients were predominantly male, with a sex ratio (F/H) of 0.51.

The mean age was 45 years, with extremes ranging from 23 to 90 years.

Farmers (64.8%), followed by housewives (34.0%) and workers (1.2%) were the social strata affected.

The average consultation time was around 15 days, with extremes ranging from 1 day to 90 days. This delay in consultation was due to self-medication (90%), traditional therapy (9%) and mystical beliefs (1%).

Traumatic wounds followed by leg ulcers were the main risk factors (**Table 1**).

The pathologies most frequently encountered were necrotizing fasciitis, followed by erysipelas (**Table 2**).

The leg and thigh were the areas of the body most affected (**Table 3**).

Any radiological examinations were performed for diagnostic purposes.

A complete blood count (CBC) showed hyperleukocytosis with neutrophil polynucleosis in all cases.

Necrosis followed by grafting or directed wound healing were the main surgical procedures performed (**Table 4**).

The outcome was favorable in 86.7% of cases.

The patients who have undergone necrosectomy and graft achieved healing between 21 and 30 days. The healing was achieved between 21 days and 90 days in others patients.

A death rate of 13.3% was noted, secondary to septic shock due to delayed consultation.

Table 1. Main risk factors.

	n	%
Traumatic wound	138	83.6
Leg ulcer	12	7.3
Intramuscular injection	9	5.5
Diabetes	4	2.4
Bartholinitis	2	1.2
Total	165	100

Table 2. Distribution of patients by pathology.

	n	%
Necrotizing fasciitis	88	53.3
Erysipelas	30	18.2
Infected wound	20	12.1
Myositis	16	9.7
Perionyxis and phlegmon	8	4.9
Necrotizing dermohypodermatitis	3	1.8
Total	165	100

Table 3. Topography of infections.

	n	%
Leg	126	76.4
Thigh	12	7.3
Feet	9	5.5
Hands	8	4.8
Multiple locations	5	3.0
Forearm	2	1.2
Arm	1	0.6
Thorax	1	0.6
Neck	1	0.6
Total	165	100

Table 4. Main surgical procedures performed

	n	%
Necrosectomy + Graft	83	62.9
Necrosectomy + Directed healing	31	23.5
Drainage	16	12.1
Amputation	2	1.5
Total	132	100

The average hospital stay was 20 days, with a range of 1 to 78 days.

4. Discussion

Infections of the skin and soft tissues are relatively common diseases and are on the increase. This may be due in part to the fact that the prevalence of methicillin-resistant *Staphylococcus aureus* has increased over the last decade. However, the actual incidence is not well known [3] [4].

Delayed consultation in our developing country context due to self-medication, attachment to traditional therapy and mystical beliefs exacerbate the frequency of these pathologies.

The male predominance observed in our study is because men are more active than women, and therefore more exposed to trauma, which is often responsible for skin lesions.

The population of the Kara region is mainly rural, which explains the predominance of farmers in our study. The lack of protective equipment (boots and gloves) during farming is often the cause of traumatic wounds and, in the same way, of skin and soft tissue infections in our series as in other studies [3] [4] [5].

Necrotizing fasciitis followed by erysipelas were the most common forms of infection in our study, while phlegmons and cellulitis predominated in the literature [6] [7] [8].

The risk factors found in our study were traumatic wounds. Venous insufficiency, wounds, overweight, post-traumatic lymphoedema, diabetes, old age and immunosuppression are the factors most frequently mentioned risk factors in the literature [9] [10] [11].

The lower limb was the part of the body most affected by these diseases in our series. This has been the rule in the literature [3] [4] [5] [12]. This is because the low limb is the part of the body most exposed to trauma.

These diseases are diagnosed clinically. In our series, no bacteriological examination was carried out, not only because of a lack of financial resources but also because of a delay in consultation, with self-medication leading to superinfection of the lesions. The germs involved are numerous and dominated by staphylococci [2] [7] [8].

These diseases are treated medically and surgically. It consists of debridement or drainage in the case of abscesses or necrosis in the skin or soft tissue, com-

bined with antibiotic therapy active against gram-negative bacilli and anaerobes, which is readapted according to the results of bacteriological examinations. Resuscitation is required in the event of complications such as septic shock [13]. The use of hyperbar oxygen therapy can help to reduce the morbidity and mortality in severe cases [3].

The outcome was favorable in the majority of cases in our series, but we noted a death rate of 13.3%, as in several series [2] [5] [7].

5. Conclusion

Skin and soft tissue infections are common. Farmers were the most affected in the Kara region. Necrotizing fasciitis and erysipelas were the most common types of lesions. They are managed medically and surgically. The reduction of the frequency of these infections in our context requires the wearing of protective equipment in the field by farmers and early consultation in the event of skin lesions.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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