Coverage of Loss of Substances Following Necrotizing Fasciitis

Abstract :

Necrotizing fasciitis is a rare infection of the skin and deep subcutaneous tissues rapidly progressing to necrosis. It is a medico-surgical emergency whose management charge is multidisciplinary, it is life-threatening with a mortality rate ranging from 20 to 30%. We conducted a retrospective study including 20 patients in whom the diagnosis of necrotizing fasciitis was retained. The purpose of this study is to detail our therapeutic experience during this period in the management of necrotizing fasciitis and comparison with literature data. All our patients received emergency medical and surgical treatment. Directed healing was carried out in 100% of our patients, simple in 95% and with VAC negative pressure therapy in 5% of cases with an average duration hospitalization of 15 days (ranging from 3 to 60 days) leading to complete healing in 10%, the remaining 90% provided skin graft coverage. 95% of our patients were satisfied with the result. 100% of our patients were translated post-surgery with a physiotherapist for preventive rehabilitation of sequelae retractable.

Keywords: Necrotizing Fasciitis – coverage – medical and surgical treatment – directed healing – VAC

INTRODUCTION

Necrotizing fasciitis (NF) is a rare rapidly progressing, inflammatory infection of the fascia with the secondary involvement of skin, subcutaneous tissues and muscle (Morgan, 2010). The infection is highly associated with very quick progressive necrosis of any of the layers in the soft tissue compartment, such as dermis, subcutaneous tissue, superficial fascia, deep fascia and muscle (Mulcahy and Richardson, 2010). NF is a severe form of soft tissue infection. Several terminologies were used to describe necrotizing fasciitis (NF) such as hospital gangrene, streptococcal gangrene, acute dermal gangrene, suppurative fasciitis, necrotizing erysipelas and synergistic necrotizing cellulites. Wilson, (1952) gave the term ‘necrotizing fasciitis’ to describe the disease and still it is the preferred terminology in these days, as it describes the most consistent and key features of the disease due to characteristic necrosis of the fascia related to the lesion. The high morbidity and mortality associated with the disease makes it an emergency. Early debridement provides a favourable outcome. Hence, it is a surgical emergency. More than 90% of NF patients may also need intensive care and organ supportive therapy and this makes it a medical emergency. The coverage of the loss of substance secondary to the flattening of the FN uses several means ranging from the simplest (primary and secondary healing, skin grafting) to the most complicated (Locoregional or free flaps).
The originality of this study is, on the one hand, to present a series of DHBN-FNs treated and monitored over the past five years, and on the other hand, to compare the therapeutic results with those of the literature.

MATERIEL AND METHODS

This work is a retrospective study with a descriptive aim and analytical from January 2019 to January 2021 in patients admitted to the surgery department plastic and burns from the Marrakech University Hospital for DHBN-FN. Patient data was collected on the basis of medical records and operating reports using the archives and the HOSIX administrative system and finally a previously established operating sheet. In terms of methods, our patients benefited from a gesture to cover the loss of substance after two stages, the first a flattening of the necrotizing fasciitis under general anesthesia, and the second a directed healing

RESULTS

Directed Healing

Figure 1

All our patients were candidates for directed healing in 95% of uncomplicated cases and in the remaining 5% by negative pressure (VAC).

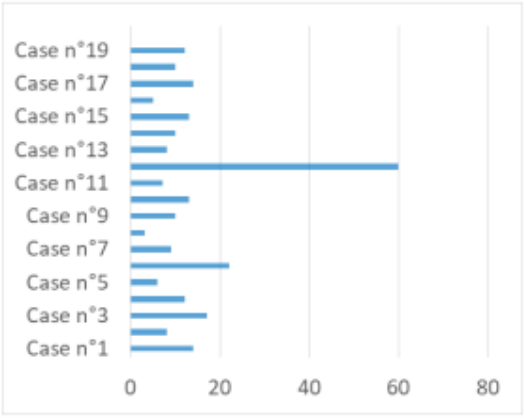
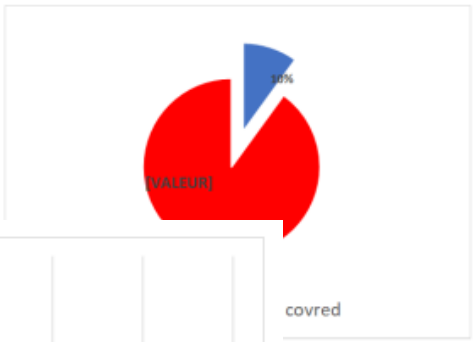


Figure 2

The average hospitalization in our series is 13 days with extremes ranging from 3 to 60 days which remains lower than the average described in the literature and also in the study of Mr. Ahmedou EL ALEM () in 2017 which was 23 days with extremes ranging from 17 days and 54 days and 33 days for the experience at the Nancy CHRU between 2005 and 2014.
This can be explained by the protocol of our service which is to monitor patients on an outpatient basis with pro-inflammatory dressings in order to obtain a satisfactory basement after having suppressed the general and local infection and stabilized the patient on all levels.



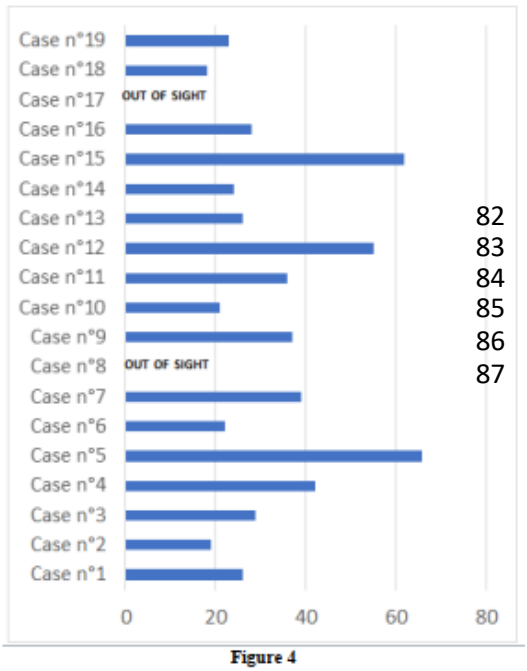


Figure 4

Coverage by skin graft was used in 90%, making it the most common reconstruction procedure, knowing that the remaining 10% were lost to sight.
This agrees with data from the literature and also from the study at the University Hospital of Nancy between 2005 and 2014 with a rate of 48%.

In our series, the coverage time is 33 days as described in the literature ranging from 21 to 30 days
In the case of a non-suturable PDS or without exposure of noble structure, which was the case in our series, skin grafting is often the treatment of choice given its simplicity and reliability in these often fragilepatients.

But it is necessary to strive to anticipate the retractile and chromic sequelae often found.

The cell culture of keratinocytes is attractive but is only possible for large surfaces). Moreover, it requires a specific laboratory and a significant additional cost.
Some authors also propose the use of artificial dermis, the advantage of which is the immediate coverage allowing reduction of protein and electrolyte losses, protection against contamination, reduction of pain during care

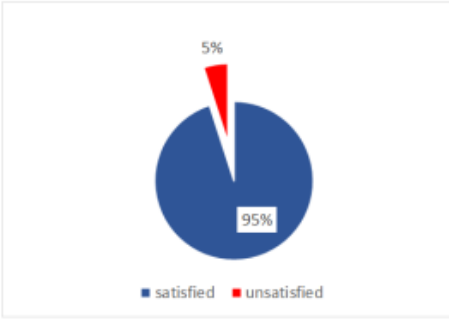
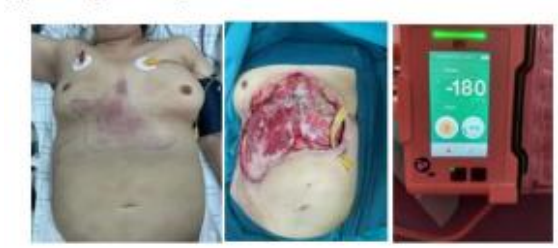


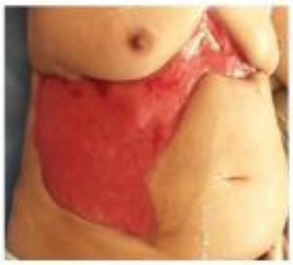
Figure 5

100% of our patients were referred postoperatively to a physiotherapist for preventive rehabilitation of retractile sequelae. 95% of our patients were satisfied with the results.



Here, we are in front of a 55-year-old patient, with a history of type II diabetes which represents the essential risk factor, she presented to the emergency room for thoraco-abdominal necrotizing fasciitis which was flattened

several times. On several occasions, on D8 the infection was controlled with obtaining a wide PDS exposing the bone opposite the first rib, we opted for healing directed by negative pressure given that the patient has the means to get some.



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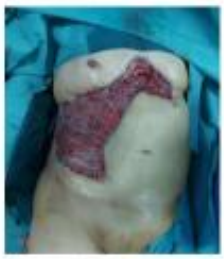

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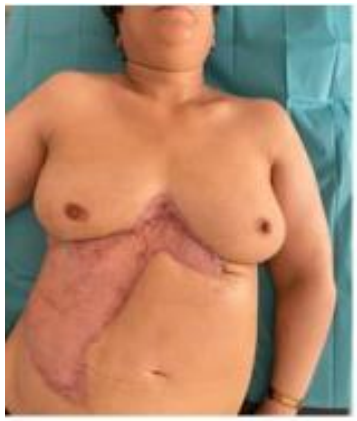
At 55 days a clean red bud was obtained, 7 days later she was admitted to the operating room for a semi-thick expanded mesh skin graft with trephination of exposed bone, resulting in a PDS of 10mm/7mm



J60 Post op

We saw the patient again in consultation with complete healing.

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