



EFFICACY OF MODIFIED LRINEC SCORING IN NECROTIZING FASCIITIS PATIENTS WITH SOFT TISSUE INFECTION.

General Surgery

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KEYWORDS

INTRODUCTION:

- An inflammation of the fascia that progresses quickly and causes subsequent necrosis of the subcutaneous tissues is known as necrotising fasciitis. The subcutaneous layer's thickness and spread rate are directly inversely related. The fascial plane is its path of travel.
- The patient becomes extremely toxic and later the skin becomes painful red necrotic as it is deprived of its blood supply the fascial necrosis is usually wider than the skin involvement that is visible clinically.
- Early recognition and surgical intervention at the earliest is the sole factor in preventing the morbidity and mortality in patients with necrotising fasciitis.
- The paucity of specific cutaneous signs to distinguish necrotising fasciitis from other soft tissue infections such as cellulitis makes the diagnosis extremely difficult.

AIMS AND OBJECTIVES:

- To validate the modified LRINEC scoring method for the diagnosis of necrotising fasciitis in patients who present with soft tissue infections at Narayana Medical College, Nellore.

MATERIALS AND METHODS:

- Patients' laboratory tests are completed, and a plain x-ray of the affected limb is taken.
- Patients with NF were diagnosed by surgical findings in our institution between June 2022 and May 2023. Patients over the age of 18 were included as the case group, matched by controls with severe soft tissue infections other than NF.
- After accounting for cofounders, a connection with NF was determined using a logistic regression analysis, leading to the development of m-LRINEC. Its discriminating power was assessed using receiver operating characteristics (ROC) curves and the area under the curve (AUC).

OBSERVATIONS:

- Only early diagnosis and prompt surgical treatment can lower morbidity and fatality rates in patients with necrotizing fasciitis.
- The diagnosis is highly challenging due to the lack of specific cutaneous indications that can identify necrotising fasciitis from other soft tissue diseases like cellulitis.

Statistics/operative Details:

- Continuous variables were given as mean and standard deviation, with differences being examined using the appropriate student t test or mann-Whitney u test.
- Categorical variables were provided as numbers and percentages, and, depending on the situation, were then compared using the chi square test or fishers test.
- The ability to distinguish was assessed using an area under the ROC curve (AUC).

RESULTS:

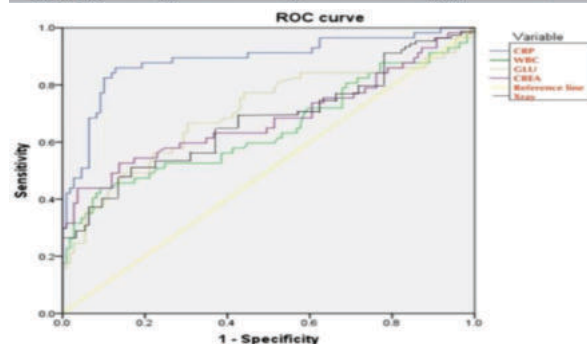
- With an average age of 50.2 years and a majority of males (71%) in our cohort of 43 patients with NF and 57 patients with other severe

soft tissue infections, NF cases were most frequently found in the lower extremities (81%) occasionally in the trunk (7%) and in the upper extremities (12%).

- In terms of applying the propensity score matching method, the NF group and the non-NF group showed nearly identical demographic traits.

RESULTS

Variable	NF group	Non NF Group	P value
CRP	138+-84.2	77.1+-36.5	<0.001
>55mg/L	39	8	<0.001
WBC	12+-6.9	9.4+-2.9	0.001
>11.7×10 ⁹ /L	32	13	<0.001
Hemoglobin	10.8+-2.5	12.7+-1.6	0.001
<11g/dl	33	15	<0.001
FBG	144+-4	103+-1.5	0.001
>108 mg/dL	38	22	<0.001
Sodium	135+-5.7	139+-3.2	0.001
<135 mmol/L	22	9	<0.001
Creatinine	103.8+-82	59.4+-14	<0.001
>82μmol/L	26	5	<0.001
Gas on xray	30	2	<0.001



CONCLUSION:

- Using a prospective case-control research, we created the m-LRINEC scoring system. This approach exhibits good specificity and sensitivity in the differential diagnosis of NF and other severe infectious illnesses, and it may be helpful for stratifying patients and giving the details required for a valid suspicion of NF.

DISCUSSION

- A high index of suspicion, along with early diagnosis and aggressive surgical treatment, remains the supreme management strategy for NF.
- Despite improvements in diagnosis and management, this rapidly progressive infection remains associated with high mortality rates of 10.9–76%.
- A simple and basic investigation such as the plain x-ray of the affected limb and help in better diagnosis of necrotising fasciitis. And differentiate from other soft tissue infections.
- So this mLRINEC score is better than the original Irinec score with higher sensitivity and specificity for detection of NF.

Limitations

- The validity of the m-LRINEC needs to be confirmed in studies with larger samples and better design.
- Multifactors may affect the validity of a scoring system, and hence the generalizability of m- LRINEC may be reduced when used elsewhere.

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