Clinical Presentation and Risk Factor of Cruris Ulcer in Sanglah General Hospital, Denpasar, Indonesia

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Abstract: Leg ulcers often referred to as cruris ulcers refer to skin discontinuities with the loss of the epidermis, and part of the dermis or the entire dermis, generally occurring in the lower limbs due to various disease processes and other causative factors. Cruris ulcers can also be defined as leg ulcers that do not show signs of healing in less than four weeks. The exact cause has not been acknowledged, but some conditions such as illness can play a role in causing this disease. Some theories related to the diseases underlying the cruris ulcer are venous disorders around 80%, arterial disorders around 5%, and trauma or infections around 5%. The cruris ulcer due to neuropathic disease occurs in about 5% of cases, as a result of peripheral neuropathy, usually in patients with diabetes and leprosy, local paresthesias, or lack of sensation, at pressure points on the feet can cause prolonged microtrauma, eventually ulceration. Other causes are systemic disease and malignancy. Ulcers are often preceded by a disruption of venous flow (chronic venous insufficiency) which then develops into static dermatitis, which in turn develops into small ulcers that are increasingly larger. Cruris ulcers are usually chronic, occur in overweight patients, pregnancy, smoking, using tight clothing, and long-standing physical activities.
In this retrospective descriptive study, clinical forms were observed, and several factors were considered as triggers for the leg ulcers. In the present study, the cruris ulcer was caused by the weakness of the vein 18 (58.1%), neuropathic 6 (19%), arterial 4 (12.9%), and infection/trauma 3 (9.8%).

1 INTRODUCTION

Leg ulcers often referred to as cruris ulcers refer to skin discontinuities with the loss of the epidermis, and part of the dermis or the entire dermis, generally occurring in the lower limbs due to various disease processes, such as chronic venous insufficiency. Cruris ulcers are usually chronic, occur in overweight patients, pregnancy, smoking, using tight clothing, and long-standing physical activities. Cruris ulcers can also be defined as leg ulcers that do not show signs of healing in less than four weeks. It is often preceded by chronic venous insufficiency and then develops into static dermatitis and eventually becomes a small ulcer.

Classification of cruris ulcer, varies greatly, but in principle, are: 1. Tropic ulcer, due to trauma, hygiene and nutrition, and infection by Bacillus fusiformis and Borreliaviincentii, 2. Varikosum ulcer, due to chronic venous insufficiency, 3. Arteriosum ulcer, caused by disturbed circulation which results in arterial failure in sending oxygen and nutrients to the lower limbs, resulting in cell death and tissue damage, and 4. Neurotrophic ulcers, due to peripheral neuropathy, and nerve damage, causing disturbances in the legs, due to increased pressure or mild injury, the most common cause of peripheral neuropathy is diabetes and morbus Hansen.

This disease is generally caused by several conditions as follows; chronic venous insufficiency - around 80%, arterial disorders - around 15%, and other causes (including diabetes and rheumatoid arthritis, systemic diseases and malignancies) - around 5%.

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2 METHODS

In this study using retrospective observations, we observed medical records of patients diagnosed with cruris ulcer from 2015-2018. Thirty-one cases of cruris ulcer were observed. All patients aged between 45-65 years. Several factors are listed as possible trigger factors such as family history, activity, obesity, and underlying disease. Also noted clinical forms such as; form of ulcer, ulcer size, number of ulcers, and location of ulcer.

3 RESULTS

A total of 31 cases of cruris ulcer were observed, all patients aged between 45-65 years. Eleven cases (61.1%) were preceded by static dermatitis (venous insufficiency), in nine female patients who had a body mass index above 26. Eighteen cases (58.1%) due to chronic venous insufficiency, 6 cases (19.4%) with neuropathic (3 with morbus Hansen, 3 with diabetic ulcers), 4 cases with arterial insufficiency ulcers and 3 cases (9.8%) due to infections such as cellulitis/erysipelas. Factors that play a role in the cruris ulcer can be seen in Table 1. below.

Table 1: Clinical presentation and risks

	Venous(%) 18 (58.1)	**Arterial (%) 4 (12.9)**	**Neuropathic (%) 6 (19.4)**	**Infection/Injury(%) 3 (9.8)**
Gender				
Male (%)	4 (12.9)	2 (6.4)	1(3.2)	2(6.4)
Female (%)	14 (45.2)	2 (6.4)	5(16.1)	1(3.2)
Age				
< 50 years (%)	3(9.7)	1(3.2)	2(6.4)	1(3.2)
> 50 years (%)	15(48.4)	3(9.7)	4(12.9)	2(6.4)
Lama sakit (durasi)				
1-5 tahun	5(16.1)	1(3.2)	1(3.2)	2(6.4)
> 5 tahun	13(41.9)	3(9.7)	5(16.1)	1(3.2)
Localization (dominant)				
Area I-Tungkai (%)	5(16.1)	1(3.2)	1(3.2)	--
Area II-Pedis (%)	10(32.2)	2(6.4)	2(6.4)	3(9.7)
Area III-Plantar pedis (%)	3(9.7)	1(3.2)	3(9.7)	--
Clinical features				
Round shape	5(16.1)	1(3.2)	2(6.4)	1(3.2)
Geographical shape	13(41.9)	3(9.7)	4(12.9)	2(6.4)
Number of ulcers				
Single	7(22.6)	1(3.2)	4(12.9)	2(6.4)
Multiple	11(35.5)	3(9.7)	2(6.4)	1(3.2)
Size of ulcer				
Mild < 2 cm^2 (%)	6(19.3)	1(3.2)	1(3.2)	--
Moderate 2-5 cm^2 (%)	9(29.0)	2(6.4)	3(9.7)	1(3.2)
Severe > 5 cm^2 (%)	3(9.7)	1(3.2)	2(6.4)	2(6.4)
Family history				
Yes (%)	10(32.2)	2(6.4)	3(9.7)	2(6.4)
No (%)	8(25.8)	3(9.7)	3(9.7)	1(3.2)
Activity				
Standing > 8 hrs (%)	11(35.5)	3(9.7)	3(9.7)	--
Standing < 8 hrs (%)	7(22.6)	1(3.2)	3(9.7)	3(9.7)
Obese (BMI)				
BMI < 25	5	1(3.2)	2(6.4)	1(3.2)
BMI > 25	13(41.9)	3(9.7)	4(12.9)	2(6.4)
Underlying diseases				
Static dermatitis/venous	8(25.8)	2(6.4)	3(9.7)	1(3.2)
Diabetes	3(9.7)	1(3.2)	2(6.4)	2(6.4)
Hipertensi	7(22.6)	1(3.2)	1(3.2)	--
Vascuilardoppler (ABPI) (No data)				

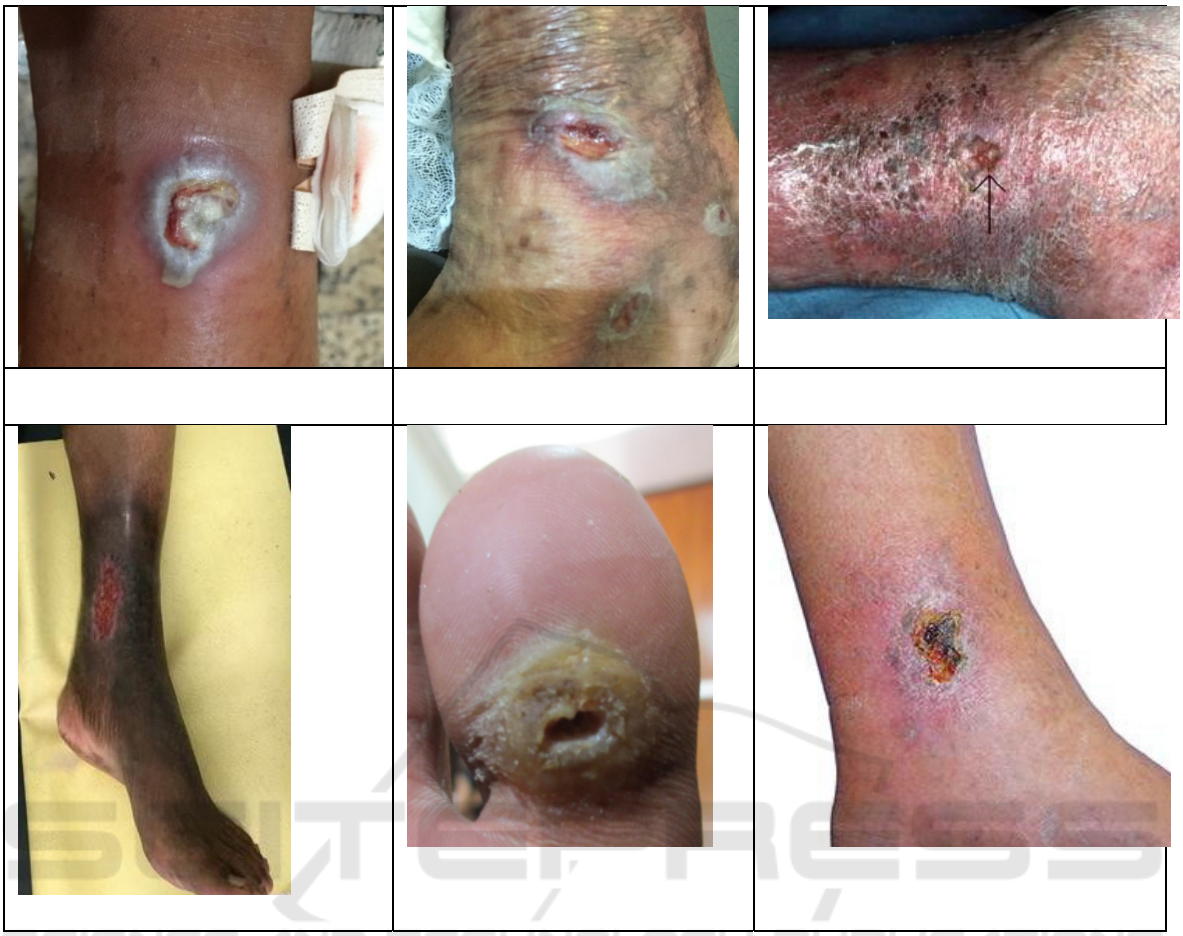

Figure 1. Clinical presentation

4 DISCUSSION

Leg ulcers often referred to as cruris ulcers refer to skin discontinuities with the loss of the epidermis, and part of the dermis or the entire dermis, generally occurring in the lower limbs and soles of the feet caused by various disease processes. The most common cause is chronic venous insufficiency. Classification of cruris ulcer, varies greatly, but in principle, are: 1. Tropic ulcer, due to trauma, hygiene and nutrition, and infection by Bacillus fusiformis and Borreliaviincentii, 2. Varikosum ulcer, due to chronic venous insufficiency, 3. Arteriosum ulcer, caused by disturbed circulation which results in arterial failure in sending oxygen and nutrients to the lower limbs, resulting in cell death and tissue damage, and 4. Neurotrophic ulcers, due to peripheral neuropathy, and nerve damage, causing disturbances in the legs, due to increased pressure or mild injury, the most common cause of peripheral neuropathy is diabetes and morbus Hansen.

Cruris ulcers are usually chronic, occur in overweight patients, pregnancy, smoking, using tight clothing, and long-standing physical activities. A total of 31 cases of cruris ulcer were observed, all patients aged between 45-65 years. Eleven cases (61.1%) were preceded by static dermatitis (venous insufficiency), in nine obese female patients. Eighteen cases (58.1%) due to chronic venous insufficiency, 6 cases (19.4%) with neuropathic (3 with morbus Hansen, 3 with diabetic ulcers), 4 cases with arterial insufficiency ulcers and 3 cases (9.8%) due to infections such as cellulitis/erysipelas.

In this retrospective descriptive study, clinical forms were observed and several factors were considered as triggers for the leg ulcer. In this study the cruris ulcer was caused by the weakness of veins 18 cases (58.1%), neuropathic 6 cases (19%), arterial 4 cases (12.9%), and infection/trauma 3 cases (9.8%). Venous disease is the main causative

factor for more than two-thirds of all leg ulcers: Venous disease - about 80% of leg ulcers, Arterial disease - about 15% of leg ulcers, and other causes (including diabetes and rheumatoid arthritis and some rare conditions) - about 5% of cruris ulcers. In 9 female patients and 4 male, who had a body mass index above 26, eleven patients have long-standing physical activities, (35.5%) with standing activities more than 8 hours a day.

5 CONCLUSION

Most cases of cruris ulcers in this study were due to chronic venous insufficiency, and neuropathic. The clinical features are geographic, multiple, and have a history of more than five years of ulcers. Obesity and long-standing physical activities also play a role in the cruris ulcer. The therapy given is generally conventional, namely with ulcer treatment, and also with some other modalities, such as PRP (platelet-rich plasma) and Low Laser Biostimulation.

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CONFLICT OF INTEREST

The authors declare that they have no conflict of interest related to the publication of this manuscript.

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