



INCIDENCE OF VASCULITIS IN CHRONIC LEG ULCERS

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Conflicts of Interest: Nil

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Abstract:

Chronic leg ulcer is a chronic wound of the leg that shows no tendency to heal after 3 months of appropriate treatment or is still not fully healed at 12 months. (4) Chronic leg ulcer of the lower leg is caused by peripheral vascular disease involving either arteries and arterioles or veins and venules of the affected limb. Arterial and venous ulcers are sometimes markedly different and require varied modes of treatment. Ulcers maybe further aggravated by other co existing factors/diseases or conditions such as pregnancy. Vasculitis is the inflammation of blood vessels. Vasculitis can be a cause or a finding in ulcers, the diagnosis of which requires histopathological examination. The objective of this study is to establish the incidence of vasculitis in the chronic leg ulcers in atertiary care setting.

Keywords: *Chronic Ulcer, Vasculitis, Incidence, Leg Ulcers*

Introduction

NEED FOR RESEARCH

The incidence of ulceration is rising as a result of the ageing population and increased risk factors for atherosclerotic occlusion such as smoking, obesity, and diabetes. (4)These ulcers may be diseases of a long duration causing distress in finances, well being, and social settings. There is a lack of study supporting the evidence of vasculitis in association with chronic leg ulcers.

Furthermore, while there are treatment modalities established for vasculitis and ulcers separately, management of the same as co existing pathologies is deficient. There is a pressing need to help define an unyielding and effective protocol to manage this condition.

OBJECTIVES

- To identify the cases of chronic leg ulcers and their presentations
- To study the incidence of vasculitis in chronic leg ulcers

METHODOLOGY AND STUDY DESIGN

Study design: Cross-sectional study

Duration of study: January 2019 –April 2019

Study population: Patients presenting with relevant complaints to Department of General Surgery, Saveetha Medical College and Hospital.

Inclusion criteria: The study is conducted in patients with chronic leg ulcers of arterial or venous origin.

Exclusion criteria: Ulcers of different origin or those associated with other diseases/conditions that are known to alter the manifestation, pathogenesis or healing process.

Sample size: 50

Statistical analyses: Data entry and analysis was done using MS excel.

Potential risks and benefits: There are no risks involved in the study. Benefit of the study is that in the current setting the occurrence of vasculitis in a leg ulcer is unaccounted for. This study aims to be a stepping stone to increasing the physician's suspicion of the presence of vasculitis complicating the healing of an ulcer. A well laid out algorithm of treatment can then be decided upon.

DISCUSSION

Chronic leg ulcer is a chronic wound of the leg that shows no tendency to heal after 3 months of appropriate treatment or is still not fully healed at 12 months.(4)They tend to be burdening cause of morbidity and mortality. Chronic ulceration of the lower leg is caused by peripheral vascular disease involving either arteries and arterioles or veins and venules of the affected limb.Arterial and venous ulcers are sometimes different and require varied modes of treatment.

Venous insufficiency in the lower limb results in venous ulcers due to stasis. The insufficiency is due to DVT-deep vein thrombosis and failure of the one-way valves that prevent the backflow of blood act during muscle contraction. Longstanding varicosities of the legs can also cause venous stasis. Arterial ulcers develop as the result of damage to the arteries due to tissue hypoperfusion. Ulcers may be further aggravated by other co-existing factors/diseases or conditions such as pregnancy that cause physiological stress. These ulcers present with a varied combination of symptoms such as ulceration, swelling around ankles, signs of inflammations (erythema, increasing pain, discoloration), friable granulation tissue, discharge (can be serous, sanguinous, purulent or mixed and/or associated with foul odour).

Vasculitis is the inflammation of blood vessels-arteries, arterioles, venules and veins. It may be primary- ulcer occurring due to blood vessel inflammation or secondary to other (autoimmune) pathologies. Three main mechanisms of inflammation have been defined:

- Injury to vessels walls by foreign bacteria or viruses
- Activation of antibodies that damage the vessel wall indirectly
- Activation of complements— protein complexes that activate inflammatory processes

Normal wound healing can be divided into stages that often overlap with one another- vascular response, inflammation, proliferation and final maturation of tissue integrity.

Chronic wounds however, are often arrested in the inflammatory phase and are unable to transition to the proliferation phase with concurrent up-regulation of angiogenesis and matrix deposition.⁽³⁾ As a result of the inflammation, blood supply is hindered due to which there is a non healing status of a long duration. This is identified, evaluated and studied in the presenting population. Vasculitis can be a cause or a finding in ulcers, the diagnosis of which requires histopathological examination of tissue biopsy taken from the ulcer.

Pathology shows that in the presence of vasculitis there is vessel wall infiltration by inflammatory cells, fibrin deposition and endothelial necrosis. The

presence of two out of the three above mentioned criteria hint at the presence of vasculitis in an appropriately sampled and studied tissue biopsy.

RESULT

An ulcer which is present for more than three months is considered as chronic ulcer. The majority of chronic leg ulcers are caused by vascular insufficiency. On due examination, around 20% of the study population was found to have evidence of associated vasculitis along with ulcers in the leg.

Management of these patients has to be multidisciplinary and should ideally include a thorough history, physical examination, and supplementary investigations and prompt, adequate medical treatment with a wide range of coverage for good prognosis. In the face of a chronically existing ulcer complicating the healing vasculitis and inflammatory diseases including rheumatoid arthritis, systemic lupus erythematosus, scleroderma, pyoderma gangrenosum and other autoimmune diseases/ drug induced conditions must be investigated for. Educating patients on issues of correct foot care and the importance of seeking early medical advice is ideal.

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