PYODERMA VEGETANS DEVELOPED ON CHRONIC LEG ULCER

Andreea Dana Molodoi¹, Andreea Dimitriu¹, Cătălina Diana Andronic¹, Gabriela Stoleriu¹, Aida Bădescu¹, D. Boda², Daciana Elena Brănieanu¹

University of Medicine and Pharmacy”Grigore T. Popa”- Iasi
Faculty of Medicine
1. Department of Medical Specialties (II)
University of Medicine and Pharmacy “Carol Davila”- București
2. Department of Dermatology
*Corresponding author. E-mail: gabrielastoleriu@yahoo.com

PYODERMA VEGETANS DEVELOPED ON CHRONIC LEG ULCER (Abstract): Pyoderma vegetans is a rare disorder that more commonly affects middle-aged persons, with a male predilection. It is characterized by vegetating lesions that coalesce into a plaque with eroded surface, covered by purulent discharge and crusts. The etiology of this disease is not known with certainty, but it is often associated with bacterial infections in immunocompromised patients. We report the case of a 73-year-old man who presented to the Iasi Dermatology Clinic with a large, irregular, relatively well-defined dermohypodermic ulcer, with infiltrated sclerosing borders, accompanied by pain, with the floor covered in the Northern part by a proliferative, vegetative bleeding area, and the rest by a yellowish secretion and cellular debris, located on the left leg. Bacteriological examination of ulcer secretion identified Pseudomonas aeruginosa. Anatomopathological examination confirmed the development of Pyoderma vegetans on chronic leg ulcer. Under specific treatment for chronic leg ulcer and eradication of infectious focus the outcome was favorable both in terms of trophic ulcer scarring and Pyoderma vegetans healing. **Keywords:** PYODERMA VEGETANS, CHRONIC LEG ULCER.

Pyoderma vegetans is a rare condition, first described by Hallopeau in 1898 (1); it is more common in middle-aged persons and there is a male predilection (5). *Pyoderma vegetans* is clinically characterized by vegetating lesions that coalesce into a plaque with eroded surface, covered by purulent discharge and crusts (2). It can occur at any level, but there is a predilection for limbs and infected loss of substance, traumatic or of any other nature (2, 3). The etiology of this disease is not known, but is often associated with bacterial infections in immunocompromised individuals (3, 4, 5, 6). *Pyoderma vegetans* has been associated with ulcerative colitis (7, 8), T-cell lymphoma (9), and alcoholism with malnutrition (10), HIV infection (11), chronic myeloid leukemia (12) and lupus nephritis (13).

**CASE REPORT**

We present the clinical case of a 73-year-old male patient residing in a rural area, who presented to the Iasi Dermatology Clinic with a large, irregular, relatively
well-defined trophic ulcer, with infiltrated sclerosing borders, intensely vegetative, bleeding area in the Northern part, located on the left leg. The patient had both a family history (mother) and personal history of chronic venous insufficiency.

The patient was known with chronic venous insufficiency and superinfected chronic left leg ulcer since age 48 years old, with a fluctuating course (ulcer decreased in size or increased in size and depth), and therapeutically neglected. The patient said he noticed during the last year an intense proliferation of the floor of ulcer, bleeding and pus discharge.

Dermatological physical examination revealed on the left leg a large dermohypodermic ulcer (15 X 10 cm), irregular, relatively well-defined, with infiltrated sclerous borders, painful, the floor covered in the Northern part by a proliferative, vegetative, bleeding portion, and the rest by a yellowish secretion and cellular debris (fig. 1).

![Fig. 1. Trophic ulcer with a vegetative Northern area](image)

The ulcer was surrounded by a painful erythemato-edematous placard, imprecisely defined, inflammatory signs present, covered here and there by crusts. Asymptomatic erythematous macules, violet-colored and hyperpigmented, isolated and coalesced into plaques, that did not disappear on vitro pressure were present on both legs.

Laboratory findings were: inflammatory syndrome, mild hyperglycemia and presence of *Pseudomonas aeruginosa* in ulcer discharges. Venous Doppler ultrasound did not detect any signs of superficial and deep vein thrombosis in the lower limbs. Skin biopsy revealed a fragment with deep ulceration, covered by necrotic debris with leukocytes and granulation tissue, epidermis at ulcer edges is uneven with papillomatous thickening and subjacent dermis with abundant polymorphous inflammatory infiltrate.

The findings of local physical examination and laboratory investigations corroborated the following positive diagnoses: chronic venous insufficiency CEAP class VI, trophic left leg ulcer superinfected with *Pseudomonas aeruginosa*, Pyoderma vegetans on the left leg, periulcer cellulitis, stasis dermatitis.

Treatment consisted in surgical debridement by scalpel excision of the slough followed by systemic drug therapy (antibiotic according to antibiogram, phlebotropic and vasodilator agents) and topical drug therapy (periulcer dermo-corticoid, nitration of vegetative lesions with 1% silver nitrate crystals for the beginning and then, silver nitrate ointments as daily dressings) in combination with rigorous local hygiene with water and dermatological soap and avoidance of prolonged standing.

Under proper treatment, the course was favorable with an approximately 50% ulcer closure within 30 days, flattening and progressive disappearance of *Pyoderma vegetans* lesions after the infectious focus was cleared up (one-month bacterial examination was negative), and periulcer erythema-
Pyoderma vegetans developed on chronic leg ulcer

tous placard gradually diminished to disappearance (fig. 2, 3).

Fig. 2. Ulcer appearance after 30 days of treatment

Fig. 3. Ulcer appearance after 4 months of treatment

DISCUSSION

Venous ulcer is the most severe manifestation of chronic venous insufficiency, being a substance loss secondary to trophic skin changes due to venous stasis (14). It affects the lower third of the leg, with a predilection for the left leg (47%). It is associated with ochre and purpuric dermatitis, sclerodermiform dermo-hypodermatitis, eczematiform dermoepidermitis, and more rarely with white atrophy and thrombophlebitis (14). The main complication of venous ulcer is a secondary bacterial infection (2). Often, bacteriological examination of ulcer discharge reveals gram-positive bacteria, such as *Staphylococcus aureus* in about 56% of cases, and gram-negative bacilli, such as *Pseudomonas aeruginosa* and *Proteus* (3).

It was suggested that *Pyoderma vegetans* is a response to massive bacterial colonization or epidermal invasion in an immunocompromised patient (15). The most common microbial agents isolated are staphylococci and beta-hemolytic streptococci. Other suspected agents are *Klebsiella* spp, *Bacteroides* spp, enterococci, *Pseudomonas aeruginosa* and *Corynebacterium* spp (5, 16). A case associated with *Trichophyton mentagrophytes* has also been reported.

Some authors believe that the microbiological agent is not primarily responsible for the disease and the infection develops secondary to an immune dysfunction. In support of this theory, in some of cases serum immunoglobulin levels were decreased and phagocytic dysfunction was observed (5, 16, 17).

The association of chronic venous ulcer with and *Pyoderma vegetans* is rare.

The diagnosis of the disease depends primarily on the exclusion of other diseases that can present as chronic vegetative lesions, including squamous cell carcinoma, Kaposi disease, achromic malignant melanoma, tuberculosis vegetans, pyoderma gangrenosum, and pemphigus vegetans (4, 5, 8). The histopathological characteristics of *Pyoderma vegetans* are pseudoepitheliomatous hyperplasia, and the presence of numerous abscesses both in the hyperplastic epidermis and dermis. The abscesses may contain neutrophils or eosinophils (4, 5).

*Pyoderma vegetans* lesions can heal spontaneously, but usually recur and become chronic. There are no standard treatment modalities. The literature emphasizes the importance of treating the underlying
disease (5). Thus, the treatment of *Pyoderma vegetans* occurring on a chronic leg ulcer is primarily based on venous ulcer therapy.

The three phases in the management of venous ulcer are: cleansing and debridement, granulation phase, and epithelization and healing. Debridement is commonly performed to remove slough, eschar and bacterial biofilms from the ulcer bed with the aim of increasing wound healing. The most common commonly used are: surgical debridement using scalpel, scissors or curette, which is the most rapid and precise, but can be painful, and autolytic or enzymatic debridement, which are slow and can be facilitated by the use of moisture-donating dressings or protease preparations, respectively. Granulation tissue must be kept permanently moist. It is used a hydroactive wound dressing that provides a moist wound environment for optimal healing, thus being highly effective in the granulation phase. During the epithelialization phase dressings are applied to make sure that moisture is retained over a wound. Hydroactive ointment dressing, hydrogel dressing, or hydrocolloid dressing (designed for already epithelialized wounds) are the best choices (3, 14).

No standardized treatment plan for *Pyoderma vegetans* is available, although antibiotic therapy has been frequently used with variable results. Good results have been reported in the literature when administering the following associations: intravenous ceftriaxone and topical aluminum acetate soaks, ampicillin and x-ray radiation, ciprofloxacin and fluocortolone, and etretinate and systemic corticosteroid therapy (4, 5).

**CONCLUSIONS**

In the reported case, the diagnosis of *Pyoderma vegetans* is both clinical and bacteriological, and anatomopathological. The outcome was favorable with both chronic leg ulcer and *Pyoderma vegetans* healing.

**REFERENCES**

Pyoderma vegetans developed on chronic leg ulcer


---

**NEWS**

**FUSARIUM MYCOTOXINS DIETARY INTAKE THROUGH BEER CONSUMPTION IN EUROPE**

Mycotoxin contamination of food and beverages represents a serious world-wide problem. Mycotoxins are secondary metabolites naturally produced by various species of fungi, including *Fusarium* genus. Deoxynivalenol is the most widely detected mycotoxin in the cereals used in beer industry. Mycotoxins are thermally stable and present a good water solubility, therefore the contamination of beer might occur in any step of the brewing process. Mycotoxins are incriminated for their hepatotoxic, carcinogenic, nephrotoxic, neurotoxic and immunosuppressive effects. Although deoxynivalenol was not classified by the IARC as being carcinogen to humans, it is still responsible for a series of deleterious effects for the organism such as: weight loss, endocrine dysfunctions and immune alterations. Rodríguez-Carrasco et al. determined the content of 14 *Fusarium* toxins and their metabolites in a total of 154 beer samples produced in Europe, in order to estimate the dietary intake of these mycotoxins. For this purpose, they developed an analytical method which consisted in a QuEChERS (Quick, Easy, Cheap, Effective, Rugged, Safe) extraction technique followed by gas chromatography-tandem mass spectrometry analysis; the analytical method was validated. Only two mycotoxins were found in a high number of beer samples: deoxynivalenol in 59.7% of samples and HT-2 toxin in 9.1% of samples. However, their average concentrations (17.2 μg/L for deoxynivalenol and 2.8 μg/L for HT-2) represent only 5% of the deoxynivalenol PMTDI (provisional maximum tolerable dietary intake) and 7-12% of the HT-2 TDI (tolerable dietary intake) for European population. The authors concluded that a moderate consumption of beer does not pose any health risk for the Europeans. Nevertheless, beer consumption represents a significant mycotoxin source for heavy beer drinkers (Rodriguez-Carrasco Y, Fattore M, Albrizio S, Berrada H, Manes J. *Occurrence of Fusarium mycotoxins and their dietary intake through beer consumption by the European population*. *Food Chem* 2015; 178: 149-155)

*Constantin Ciobanu*