Mancuso G, J Clin Stud Med Case Rep 2025, 12: 257
DOI: 10.24966/CSMC-8801/1000257

HSOA Journal of Clinical Studies and Medical Case Reports

Case Report

The Buerger's Disease and the Type I Cryoglobulinemia,T Entities Expression of the Same Type III Hypersensitivity Reaction

Mancuso G*

Department of Internal Medicine, EOC, "La Carità" Hospital of Locarno, Switzerland

Abstract

The type I cryoglobulinemia vasculitis is a life-threatening disorder because of the severity of cutaneous and renal involvement and the underlying hemopathy and even a limited quantity of paraproteins can cause severe symptoms and the Type I cryoglobulinemia accounts for 10%–15% of patients with cryoglobulinemia. Thromboangiitis obliterans, (formely called Buerger disease), is an uncommon cause of vasculitis, that affects the small to medium-sized arteries and veins of the extremities (upper and lower) and, less commonly, cerebral/visceral vessels with a nonatherosclerotic, segmental, inflammatory disease.

We describe a 53-year-old women heavy cigarette smoker seen for extremity pain, claudicatio, recent complicated Raynaud phenomen. She had a type I cryoglobulinemia while the other laboratory tests were normal an bone marrow hystology reveal aspecific changes.

A causal relationship between TAO and cryoglobulinemia could not be proved and we suppose that the relationship between these two entities may be the expression of a unique dysdregulation of type III hypersensitivity reaction.

The Thromboangiitis Obliterans (TAO), also called Buerger disease, an uncommon cause of vasculitis, is a nonatherosclerotic, segmental, inflammatory disease that affects the small to medium-sized arteries and veins of the extremities (upper and lower) and, less commonly, cerebral/visceral vessels [1].

***Corresponding author:** Mancuso G, Department of Internal Medicine, EOC, "La Carità" Hospital of Locarno, Switzerland, Email: mancuso.gaia@hsr.it

Citation: Mancuso G (2025) The Buerger's Disease and the Type I Cryoglobulinemia,T Entities Expression of the Same Type III Hypersensitivity Reaction. J Clin Stud Med Case Rep 12: 257.

Received: January 16, 2024; **Accepted:** January 28, 2025; **Published:** February 06, 2025

The prevalence is estimated at 1/10,000 in Europe but the disease is found worldwide [2]. Patients present with clinical manifestations of an occlusive vascular disease characterized by distal arteriopathy: Raynaud's phenomenon, intermittent claudication at the beginning, rapidly followed by digital ischemia and/or gangrene. TAO may also involve temporal artery mimicking temporal arteritis [1,2]. The etiology of Buerger disease is unknown, but use or exposure to tobacco is central to the initiation and progression of the disease and the pathological mechanism may be delayed-hypersensitivity [3], a toxic angiitis or a cell-mediated sensitivity to types I and III human collagen, which are constituents of blood vessels [3]. TAO is characterized by highly cellular and inflammatory occlusive thrombus with relative sparing of the blood vessel wall the diagnosis is made with the Olin's criteria after exclusion of other entities that cause vascular occlusive disease [4]. The most important aspect of treatment is cessation of smoking (active and passive); the prognosis for those who succeed being generally very good [5]. Additional medical treatment options include the use of aspirin, Iloprost or streptokinase, with Iloprost (used intravenously), shown to be more effective than aspirin both in the short and long term [1,2].

A 52-year-old patient presented to the Immunologic Clinic because of the recent appearance of Raynaud phenomenon and digit painful ulcers. She complains claudication in the lower limbs with a walking autonomy of 100m.

She is a heavy tobacco smoker and otherwise well with no familiar hystory of immune rheumatological disease. On physical examination there were symmetrical digital ulcer on III and II digits, no puffy fingers, or cutaneous sclerosis were noted. The Allen test positivity on the both arm rise the suspicion of a small vessel disease Capillaroscopic picture was characterized by poor visibility due to marked edema of the fundus with the capillary bed architecture apparently preserved with rare tortuosity and isolated ectasias but no megacapillaries or apical microhemorrhages. Preserved capillary density, in the absence of empty papillae or frank avascular areas. No neo angiogenesis phenomena are appreciated.

At that time we couldn't examine all digits due to marked hyperalgesia in the affected areas. The serologic work-up reveal aspecific and low ANA positivity (1:160) with granular pattern (AC4-5), no phospholipi antibodies were detected, the serologic evaluation for HIV, HBV, HCV was negative, as well as no flogosis was showed.

A cryocrite equal to 2% and an electrophoresis monoclonal component equal to 1.5g/L in the gamma zone of IgM lambda type equal to 2.1% of the total were revealed. The color Doppler echocardiogram was normal whereas the lower and upper limb color doppler ultrasound detected a small amplitude flowmetry of the radial and ulnar arteries bilaterally.

We recommend smoking cessation and therapy with iloprost infusion 0,5 ng/kg/min in 6 hours infusion on three days every 4 weeks, cilostazole (100mg twice daily), aspirin(100mg once a day), with rapid improvement of skin ulcer.

She underwent to bone marrow biopsy that showed a specific changes revealing a cellularity equal to 60%, slight and focal increase in the reticulin texture, with slightly reduced megakaryocytes. Rare CD20+ B lymphocytes and occasional CD3+ T lymphocytes even in reactive aggregates. Thus the hematological evaluation excluded the presence of a florid lymphoproliferative disease, but did not exclude a form of low aggressiveness and negligible neoplastic mass capable of maintaining a vasculitis with a dysreactive pathogenesis.

An attempt at immunosuppressive and anti-inflammatory treatment was judged as advisable: the patient started oral steroid therapy (prednison 1mg/Kg) and continued the infusions of iloprost, cilostazol and abstinence from smoking, with the complete tissue "restitution ad integrum" in three months where she present a dramatic improvement of the presenting symptoms showing a full disease recover.

Among differential diagnosis of TAO with other vasculitis there is the cryoglobulinemia vasculitis (CV). Vascular occlusion is more frequent in type I cryoglobulinemia, which is usually accompanied by high cryoglobulin concentrations, and can be associated with hyperviscosity syndrome and cold-induced acral necrosis. Type I cryoglobulinemia accounts for 10%–15% of patients with cryoglobulinemia. Data on type I CV are scarce in the literature, therefore the characteristics and outcome are poorly known [6].

The type I CV is considered a life-threatening disorder because of the severity of cutaneous and renal involvement and the underlying hemopathy and even a limited quantity of paraproteins can cause severe symptoms [7]. The management of type I CV is based on empirical data in those patients without overt B-cell lymphoma, the treatment of vasculitis may include plasma exchange, corticosteroids, alkylating agents, rituximab, or iloprost [8].

A causal relationship between TAO and cryoglobulinemia could not be proved, until now we are aware that just one case has been described and we suppose that the relationship between these two entities may be the expression of a unique dysdregulation of the same hypersensitivity reaction [9].

References

1. Modaghegh MHS, Kamyar MM, Shafiei A, Shariatmaghani SS, Saremi E, et al. (2023) A comprehensive review of the epidemiology and clinical features of 91 cases with Buerger's disease. Vascular 12: 17085381231175257.

2. Watanabe Y, Shimizu Y, Hashimoto T, Iwahashi T, Shigematsu K, et al. (2024) Japan Research Committee of the Ministry of Health, Labour, and Welfare for Intractable Vasculitis (JPVAS). Demographic Traits, Clinical Status, and Comorbidities of Patients With Thromboangiitis Obliterans in Japan. Circ J 88: 319-328.

3. Chen Q, Chen J, Li J, Cheng Y, Zhang R, et al. (2023) Recent advances of oxidative stress in thromboangiitis obliterans: biomolecular mechanisms, biomarkers, sources and clinical applications. Thromb Res 230: 64-73.

4. Olin JW (2000) Thromboangiitis obliterans (Buerger's disease). N Engl J Med 343: 864-869.

5. Yanagita Y, Uehara T, Momose M, et al (2023) Thromboangiitis obliterans successfully treated with smoking-cessation instruction including passive smoking cessation. AIM Clinical Cases 2: 230155.

6. Terrier B, Karras A, Kahn JE, Le Guenno G, Marie I, et al. (2013) The spectrum of type I cryoglobulinemia vasculitis: new insights based on 64 cases. Medicine (Baltimore 92(2): 61-68.

7. Spizzo G, Mitterer M, Gunsilius E (2010) Bortezomib for the treatment of refractory Type-1 cryoglobulinaemia. Br J Haematol 150: 235-237.

8. Ramos-Casals M, Stone JH, Cid MC, Bosch X (2012) The cryoglobulinaemias. Lancet 379: 348-360.

9. Owlia MB, Mehrpoor G (2014) Thromboangiitis obliterans with cryoglobulinemia. J Coll Physicians Surg Pak 24: 863-864.

Advances In Industrial Biotechnology | ISSN: 2639-5665

Advances In Microbiology Research | ISSN: 2689-694X

Archives Of Surgery And Surgical Education | ISSN: 2689-3126

Archives Of Urology

Archives Of Zoological Studies | ISSN: 2640-7779

Current Trends Medical And Biological Engineering

International Journal Of Case Reports And Therapeutic Studies | ISSN: 2689-310X

Journal Of Addiction & Addictive Disorders | ISSN: 2578-7276

Journal Of Agronomy & Agricultural Science | ISSN: 2689-8292

Journal Of AIDS Clinical Research & STDs | ISSN: 2572-7370

Journal Of Alcoholism Drug Abuse & Substance Dependence | ISSN: 2572-9594

Journal Of Allergy Disorders & Therapy | ISSN: 2470-749X

Journal Of Alternative Complementary & Integrative Medicine | ISSN: 2470-7562

Journal Of Alzheimers & Neurodegenerative Diseases | ISSN: 2572-9608

Journal Of Anesthesia & Clinical Care | ISSN: 2378-8879

Journal Of Angiology & Vascular Surgery | ISSN: 2572-7397

Journal Of Animal Research & Veterinary Science | ISSN: 2639-3751

Journal Of Aquaculture & Fisheries | ISSN: 2576-5523

Journal Of Atmospheric & Earth Sciences | ISSN: 2689-8780

Journal Of Biotech Research & Biochemistry

Journal Of Brain & Neuroscience Research

Journal Of Cancer Biology & Treatment | ISSN: 2470-7546

Journal Of Cardiology Study & Research | ISSN: 2640-768X

Journal Of Cell Biology & Cell Metabolism | ISSN: 2381-1943

Journal Of Clinical Dermatology & Therapy | ISSN: 2378-8771

Journal Of Clinical Immunology & Immunotherapy | ISSN: 2378-8844

Journal Of Clinical Studies & Medical Case Reports | ISSN: 2378-8801

Journal Of Community Medicine & Public Health Care | ISSN: 2381-1978

Journal Of Cytology & Tissue Biology | ISSN: 2378-9107

Journal Of Dairy Research & Technology | ISSN: 2688-9315

Journal Of Dentistry Oral Health & Cosmesis | ISSN: 2473-6783

Journal Of Diabetes & Metabolic Disorders | ISSN: 2381-201X

Journal Of Emergency Medicine Trauma & Surgical Care | ISSN: 2378-8798

Journal Of Environmental Science Current Research | ISSN: 2643-5020

Journal Of Food Science & Nutrition | ISSN: 2470-1076

Journal Of Forensic Legal & Investigative Sciences | ISSN: 2473-733X

Journal Of Gastroenterology & Hepatology Research | ISSN: 2574-2566

Journal Of Genetics & Genomic Sciences | ISSN: 2574-2485

Journal Of Gerontology & Geriatric Medicine | ISSN: 2381-8662

Journal Of Hematology Blood Transfusion & Disorders | ISSN: 2572-2999

Journal Of Hospice & Palliative Medical Care

Journal Of Human Endocrinology | ISSN: 2572-9640

Journal Of Infectious & Non Infectious Diseases | ISSN: 2381-8654

Journal Of Internal Medicine & Primary Healthcare | ISSN: 2574-2493

Journal Of Light & Laser Current Trends

Journal Of Medicine Study & Research | ISSN: 2639-5657

Journal Of Modern Chemical Sciences

Journal Of Nanotechnology Nanomedicine & Nanobiotechnology | ISSN: 2381-2044

Journal Of Neonatology & Clinical Pediatrics | ISSN: 2378-878X

Journal Of Nephrology & Renal Therapy | ISSN: 2473-7313

Journal Of Non Invasive Vascular Investigation | ISSN: 2572-7400

Journal Of Nuclear Medicine Radiology & Radiation Therapy | ISSN: 2572-7419

Journal Of Obesity & Weight Loss | ISSN: 2473-7372

Journal Of Ophthalmology & Clinical Research | ISSN: 2378-8887

Journal Of Orthopedic Research & Physiotherapy | ISSN: 2381-2052

Journal Of Otolaryngology Head & Neck Surgery | ISSN: 2573-010X

Journal Of Pathology Clinical & Medical Research

Journal Of Pharmacology Pharmaceutics & Pharmacovigilance | ISSN: 2639-5649

Journal Of Physical Medicine Rehabilitation & Disabilities | ISSN: 2381-8670

Journal Of Plant Science Current Research | ISSN: 2639-3743

Journal Of Practical & Professional Nursing | ISSN: 2639-5681

Journal Of Protein Research & Bioinformatics

Journal Of Psychiatry Depression & Anxiety | ISSN: 2573-0150

Journal Of Pulmonary Medicine & Respiratory Research | ISSN: 2573-0177

Journal Of Reproductive Medicine Gynaecology & Obstetrics | ISSN: 2574-2574

Journal Of Stem Cells Research Development & Therapy | ISSN: 2381-2060

Journal Of Surgery Current Trends & Innovations | ISSN: 2578-7284

Journal Of Toxicology Current Research | ISSN: 2639-3735

Journal Of Translational Science And Research

Journal Of Vaccines Research & Vaccination | ISSN: 2573-0193

Journal Of Virology & Antivirals

Sports Medicine And Injury Care Journal | ISSN: 2689-8829

Trends In Anatomy & Physiology | ISSN: 2640-7752

Submit Your Manuscript: https://www.heraldopenaccess.us/submit-manuscript

Herald Scholarly Open Access, 2561 Cornelia Rd, #205, Herndon, VA 20171, USA.
Tel: +1 202-499-9679; E-mail: finalproof@heraldsopenaccess.org
http://www.heraldopenaccess.us/