



## CASE AND RESEARCH LETTERS

### Chilblain and Acral Purpuric Lesions in Spain during Covid Confinement: Retrospective Analysis of 12 Cases<sup>☆</sup>



### Lesiones pernióticas y acrales en España durante el confinamiento por COVID: análisis retrospectivo de 12 casos

Dear Editor:

Since the emergence of COVID-19 infection in Spain, in the beginning of February 2020, the most populated regions, such as Madrid and Catalonia, have concentrated the highest case incidence. Suspect of COVID-19 is based on clinical signs comprising fever, cough, fatigue, ageusia, anosmia, myalgia and dyspnea. Laboratory alterations include lymphopenia, increased LDH, D Dimer, Ferritin and CRP. The diagnosis is based on virus detection in oropharyngeal swabs. Some rapid tests are available for seroconversion detection, for determination of specific IgM and IgG, but its use is still limited due to low availability, and uncompleted validation. Restricted measures have been performed in the Spanish population. Alarm state and general confinement in Spain started in March 14th and has not yet been finished.

A number of dermatoses associated with covid-19 infection have already been described,<sup>1</sup> including erythematous or purpuric rash in the trunk, urticarial and chickenpox-like lesions. Acro-ischemic lesions have been reported in intensive care unit-admitted patients,<sup>2</sup> due to disseminated intravascular coagulation (DIC) and clinically behaving as a dry gangrene. A case of acute acro-ischemic lesions in a child has recently been reported in Italy.<sup>3</sup>

During the first weeks of April, national and regional social media have reported a vast number of chilblain-like purpuric acral lesions in hands and feet, predominating in children, and up to date, accurate descriptions in the existing medical literature have been sparse.<sup>3</sup> In Spain, reports of these lesions have been widespread in the territory, but they have been more frequently reported on the most pop-

ulated areas, the Metropolitan Conurbations of Madrid and Barcelona.

We have retrospectively reviewed 12 cases of acral purpuric lesions that have been studied thoroughly in two hospitals in the Barcelona area (Consorci Sanitari Parc Taulí and Hospital Sant Joan de Deu). Their clinical characteristics are shown in Table 1. None of them had COVID-related clinical manifestations. Most patients were children and young adults. Clinical picture comprised two types of lesions: 1. Acral erythematous purpuric lesions in fingers and toes, with accompanying edema, similar to common chilblains or pernio (Figure 1), sometimes evolving into blisters, and crusts. Hands and feet were not cold, and the symptoms usually ranged from itch to burning or painful sensations; 2. Papular or macular purpuric round-shaped lesions, 5 to 8 mm of diameter, in palmar or plantar surfaces, or over the heels (Figure 2), clinically resembling vasculitis or erythema multiforme, usually asymptomatic or itchy. The two types of lesions were present alone or in combination.

The results of COVID-19 screening yielded negative results in all cases, including specific PCR and a rapid test for IgM/IgG antibodies (VivaDiag, VivaCheck Biotech, Hangzhou, China), performed only in 5 patients due to current low availability. Laboratory tests (including blood cell count, ferritin, CRP, D Dimer, Ferritin and LDH) and chest X-ray, when available, showed normal or negative results. In two patients, a histopathological study of a punch biopsy of the lesions yielded nonspecific findings, with dermal edema, sparse keratinocyte necrosis, and a deep mixed infiltrate with mostly perivascular or perieccrine reinforcement.

All cases showed a good evolution, achieving a complete healing after two to three weeks of topical corticosteroid or combination of topical corticosteroid plus topical antibiotic. In only one patient, pain control needed the administration of oral gabapentin. None of the patients have develop any COVID-related clinical manifestation since the diagnosis of skin lesions.

As a conclusion, this stunning clinical picture is atypical because it has appeared during warm weather, not associated with common chilblains, and although it has a temporal relationship with COVID pandemic, in none of the patients an evidence of current or past COVID-19 infection could be demonstrated. Epidemiological association is clear with COVID-19 pandemic, but our results show that such cutaneous lesions are not a manifestation of active coronavirus infection, as determined by currently available tests. One explanation could be an early contact with COVID-19 during the month of February or early March, without clinical symptoms, which would have made the virus undetectable with PCR technique. A second explanation could be low

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**Table 1** Patients' characteristics.

Patient number	Hospital	Age	Sex	Clinical presentation	Treatment and Evolution	COVID-19 infection symptoms	PCR	IgM/IgG rapid test	Biopsy	Laboratory	Chest x-ray
1	CSPT	43	Male	Chilblain-like lesions on hands and feet	Topical corticosteroid + antibiotic. Healing in 2 weeks	No	—	—	Yes	Ferritin 423,9 ng/ml	Normal
2	CSPT	46	Male	Purpuric papules on hands	Topical corticosteroid. Healing in 1 week	No	—	—	Yes	Normal	Normal
3	CSPT	12	Male	Chilblain-like lesions in feet, purpuric papules on heels	Topical corticosteroid + antibiotic. Healing in 3 weeks	No	—	—	No	Normal	Normal
4	CSPT	14	Male	Purpuric papules on heels	Topical corticosteroid. Healing in 2 weeks	No	—	—	No	Normal	Normal
5	CSPT	7	Female	Chilblain-like on hands and feet. Palmar involvement	Topical antibiotic. Healing in 1 week	No	—	—	No	Normal	Normal
6	CSPT	15	Female	Itchy chilblain-like lesions on feet	3 weeks evolution, spontaneous improvement	No	—	N/A	No	N/A	N/A
7	CSPT	12	Male	Itchy chilblain-like	Improvement with topical	No	—	N/A	No	Normal	N/A
8	CSPT	14	Female	Itchy and burning chilblain-like lesions on feet	Improvement with topical corticosteroid in 3 weeks	No	—	N/A	No	Normal	N/A
9	HSJD	14	Female	Erythromelalgia symptoms, chilblain lesions on feet, edema, and blistering	Very intense symptoms, not relieved with aspirin, gabapentin needed to control pain	No	—	N/A	No	Normal	N/A
10	HSJD	17	Male	Perniosis-like and blisters on hands and feet	N/A	No	—	N/A	No	N/A	N/A
11	HSJD	11	Female	Chilblain-like lesions on hands and feet	Spontaneous improvement in 2 weeks	No	—	N/A	No	Normal	N/A
12	HSJD	17	Female	Purpuric papules and vesicles on fingers	Improvement in 3 weeks with topical corticosteroid	No	—	N/A	No	Normal	N/A

CSPT: Consorci Sanitari Parc Taulí; HSJD: Hospital Sant Joan de Deu; N/A: not available.



**Figure 1** Chilblain-like lesions and edema in hands and feet.



**Figure 2** Discrete papular purpuric round-shaped lesions predominantly on plantar surfaces or heels.

sensitivity of the rapid IgG/IgM tests, or a fast disappearance of circulating antibodies, with low levels that do not match the technique detection threshold. A third one would comprise different etiopathogenic factors related to confinement, which have not been identified up to date. A more detailed study of more skin biopsies, self-immunity profiling in serum, and more refined quantitative PCR detection are in course, in order to elucidate the cause of these dermatological lesions.

### Conflict of interest

The authors declare that they have no conflict of interest.

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## Adverse Reactions to Fillers in Men: A Retrospective Study of Epidemiological and Clinical Characteristics and the Usefulness of Diagnostic Ultrasound<sup>☆</sup>



### Complicaciones de rellenos (*fillers*) en hombres. Estudio retrospectivo de las características epidemiológicas y clínicas. Utilidad de la ecografía en el diagnóstico

To the Editor:

The use of fillers for esthetic purposes has increased in recent years. Complications secondary to the use of permanent and nonpermanent fillers have been widely described.<sup>1</sup> However, the literature on complications in men is scarce. Here, we describe the clinical and epidemiological characteristics of men with adverse reactions to fillers.

We carried out a retrospective study of men with adverse reactions to fillers who visited the dermatology department of the Hospital Clínic de Barcelona between May 1, 2015, and October 31, 2018. Corresponding medical records, photographs, and additional tests were reviewed. Ultrasound evaluation was performed using an Esaote Mylab ClassC kit with 18-MHz and 22-MHz probes.

Our analysis included 6 men (one of whom was the subject of a previous publication<sup>2</sup>): 1 was transsexual; 3 were men who have sex with men (MSM); and 2 were heterosexual (Table 1). Three of the patients had human immunodeficiency virus (HIV). All had been referred from another service with different diagnoses. Adverse reactions to fillers were never suspected. The most frequent filler injection site was the buttocks (4 patients), followed by the face (2 patients). The patients reported receiving injections of hyaluronic acid (1 patient), liquid silicone (2 patients), petrolatum (1 patient), polyalkylimide (1

patient), and an unknown agent (1 patient). Two of the 6 patients initially denied having undergone dermal filling. The time from infiltration to adverse reaction ranged from 2 to 15 years. The most frequent clinical presentations were recurrent pseudocellulitis (4 patients), filler migration (3 patients), nodule formation (2 patients), and knee pain (1 patient). Two of the patients had undergone computed axial tomography (CAT), which revealed signs of myositis and cellulitis (patients 2 and 5), but not the presence of filling agent. High frequency ultrasound (HIFU) revealed findings compatible with adverse reaction to filler in all cases. In 1 patient who was unaware of the type of filler used, HIFU revealed a snowstorm-like pattern characteristic of liquid silicone (Fig. 1). In another individual who reported having received hyaluronic acid infiltrations, HIFU revealed characteristics compatible with petrolatum (anechoic pseudocysts) (Fig. 2). In 1 case, treatment consisted of removal of the filler. Three patients were treated with oral corticosteroids, 2 with minocycline, and 2 with nonsteroidal anti-inflammatory drugs. One patient was lost to follow-up. The clinical response was variable (Table 1).

Adverse reactions to fillers can cause severe morbidity with foreign body granulomatous reactions, pseudocellulitis, skin necrosis, embolization and migration of filler material, and even death.<sup>1,3</sup> In our series, the most common complications were pseudocellulitis and filler migration.

It should be noted that all patients were referred from other services and in no case was adverse reaction to filler suspected, likely due to the great variability in clinical presentation, the long latency to symptom onset (up to 15 years in our series), a reluctance to admit having undergone the procedure (or failure to recall the procedure in cases in which many years had elapsed), and a lack of suspicion of this condition in men. The misdiagnosis of recurrent cellulitis or myositis led in several cases to costly imaging tests and multiple cycles of broad-spectrum antibiotic therapy, with potential associated adverse effects.

Some authors have suggested that the use of unauthorized fillers such as liquid silicone and petrolatum is increasing among transsexuals and bodybuilders.<sup>3,4</sup> In our series, most of the fillers used corresponded to this group (silicone and petrolatum in 3 and 2 cases, respectively). However, only 1 of the individuals was transsexual, none were bodybuilders, and 2 were heterosexual, underscoring the need for a high index of clinical suspicion when evaluating men with inflammatory dermatoses, especially on the face, buttocks, and thighs.

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