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<https://doi.org/10.15446/cr.v7n2.88809>

## ATYPICAL PITYRIASIS ROSEA IN A YOUNG COLOMBIAN WOMAN. CASE REPORT

**Keywords:** Pityriasis Rosea; Exanthema; Herpesviridae.

**Palabras clave:** Pitiriasis; Exantema; Herpesviridae.

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## ABSTRACT

**Introduction:** Pityriasis rosea is an acute and self-limited exanthem first described by Gilbert in 1860. Its treatment is symptomatic, and although there is no conclusive evidence, it has been associated with the reactivation of the human herpesviruses 6 and 7 (HHV-6 and HHV-7).

**Case presentation:** A 28-year-old woman, from Bogotá, Colombia, a health worker, attended the emergency room due to the onset of symptoms that began 20 days earlier with the appearance of punctiform lesions in the left arm that later spread to the thorax, abdomen, opposite arm, and thighs. The patient reported a history of bipolar II disorder and retinal detachment. After ruling out several infectious diseases, and due to the evolution of the symptoms, pityriasis rosea was suspected. Therefore, treatment was started with deflazacort 30mg for 21 days, obtaining a favorable outcome and improvement of symptoms after 2 months. At the time of writing this case report, the patient had not consulted for recurrence.

**Conclusion:** Primary care physicians should have sufficient training in dermatology to recognize and treat dermatological diseases since many of them are diagnosed based on clinical findings. This is an atypical case, in which the patient did not present with some of the pathognomonic signs associated with pityriasis rosea.

## RESUMEN

**Introducción.** La pitiriasis rosada es un exantema agudo y autolimitado que fue descrito formalmente por Gilbert en 1860. Su tratamiento es sintomático y, aunque faltan pruebas concluyentes, su aparición se ha asociado a la reactivación de los herpesvirus humanos 7 y 6 (HHV6 y HHV7).

**Presentación del caso.** Mujer de 28 años procedente de Bogotá, Colombia, quien se desempeñaba como trabajadora de la salud y consultó al servicio de urgencias por un cuadro clínico de 20 días de evolución que inició con la aparición de lesiones punteadas en el brazo izquierdo que se expandieron posteriormente a tórax, abdomen, brazo contralateral y muslos. La paciente informó antecedente de trastorno bipolar tipo II y desprendimiento de retina. Después de descartar varias enfermedades infecciosas, y debido a la evolución del cuadro clínico, se sospechó pitiriasis rosada, por lo que se instauró tratamiento con 30mg de deflazacort por 21 días, con el cual se logró una evolución favorable y la mejoría total de los síntomas a los 2 meses. Hasta el momento de la elaboración del presente reporte de caso la joven no había consultado por recurrencia.

**Conclusión.** Es indispensable que los médicos de atención primaria tengan una educación adecuada en dermatología para poder reconocer y tratar la pitiriasis rosada, pues su diagnóstico es eminentemente clínico y puede tener múltiples presentaciones atípicas, como en el caso aquí reportado donde la paciente no tuvo algunos de los signos patognomónicos característicos.

## INTRODUCTION

Pityriasis rosea is an acute and self-limited exanthem. It was first described by Gilbert in 1860, (1,2) but the initial report was done by Robert Willan as early as 1798. (3) It has also received other names, the first being *Roseola annulate*. (3) This condition has been associated with the reactivation of human herpesviruses 6 and 7 (HHV-6 and HHV-7) (4-7), as well as with infection with *Legionella micdadei*, *Mycoplasma pneumoniae*, enterovirus, COVID-19, and others, (8-10) although conclusive evidence is lacking.

Other theories, notably the one given by Burch and Rowell (11), have proposed that it has an auto-immune origin and are backed by some published research. (4,12) One of such studies reported that 28% of the patients included in their sample had anti-lymphocyte antibodies, suggesting an autoimmune role. Other theories are based on psychosomatic aspects of the disease, which has been sustained in the papers published by Grinspan-Bozza (13) and Mahajan *et al.* (14)

The disease affects people of any age and sex, although it is more common between the ages of 5 and 35 and, develops in two stages (15,16). The first occurs before the onset of dermatological signs and symptoms and is characterized by symptoms similar to respiratory infection in 70% of the cases, whereas the remaining 30% may present with malaise, low grade fever, headache and arthralgia, (15,16) which usually disappear after the appearance of dermatological manifestations.

The second stage of the disease typically begins with an oval spot or “herald patch” in

the chest, abdomen or back in 80% of patients. (17) Afterwards, smaller erythematous plaques appear, which can be pruriginous and have internal desquamation (collaret desquamation). These plaques follow the distribution of the metameris and can produce a “Christmas-tree pattern” in the back.

Treatment is mainly symptomatic due to its benign course with little probabilities of transmission. Therapy involves the use of antihistamines or low-potency steroids, and corticotherapy in cases of severe pruritus. Moreover, erythromycin appears to shorten the duration of the natural history of the disease. (18) Another option is a seven-day course of acyclovir, which could be useful to shorten the days of eruption, and even though the disease can resolve spontaneously between 6 to 8 weeks with or without intervention, the effective dose seems to be between 400-800mg, (19-21) but evidence is contradictory. (22) Other type of therapy that could be useful is phototherapy, in which ultraviolet light type A or B are used multiple times a week (15,16,23), apparently reducing the severity and duration of the symptoms.

Nevertheless, evidence supporting these types of therapy is inconsistent or weak. Management with corticosteroids is based on consensus, opinions and case series, while the evidence for the use of acyclovir is inconsistent and macrolides seem to be ineffective (16). Many options have been explored, but clear evidence of an effective treatment is still missing (14,24). Table 1 describes some of the options and dosages recommended. Recurrence is relatively rare even without treatment. (20)

**Table 1. Some treatments and therapies for Pityriasis rosea**

Therapy	Dose
Erythromycin	Adults 200mg <i>per os</i> 4 times per day Children 40 mg/kg/day divided in 4 doses
Clarithromycin	Adults 250mg <i>per os</i> 2 per day for 2 weeks
Azithromycin	Children 12 mg/kg/day for 5 days, maximum 500 mg/day
Acyclovir	400mg <i>per os</i> every 4 hours for 5 days 800mg <i>per os</i> s 5 times per day
Phototherapy	UVB 5 times/week
Special cases	Children with severe pruritus Methylprednisolone 16mg/day Pregnant women: acyclovir may prevent miscarriage. The safety of acyclovir needs to be confirmed (level of safety B)

Source: Own elaboration based on Urbina *et al.*, (15) Villalon-Gomez (16) and Drago & Rebora. (24)

The following is a case report of an unusual case of pityriasis rosea in a female health worker.

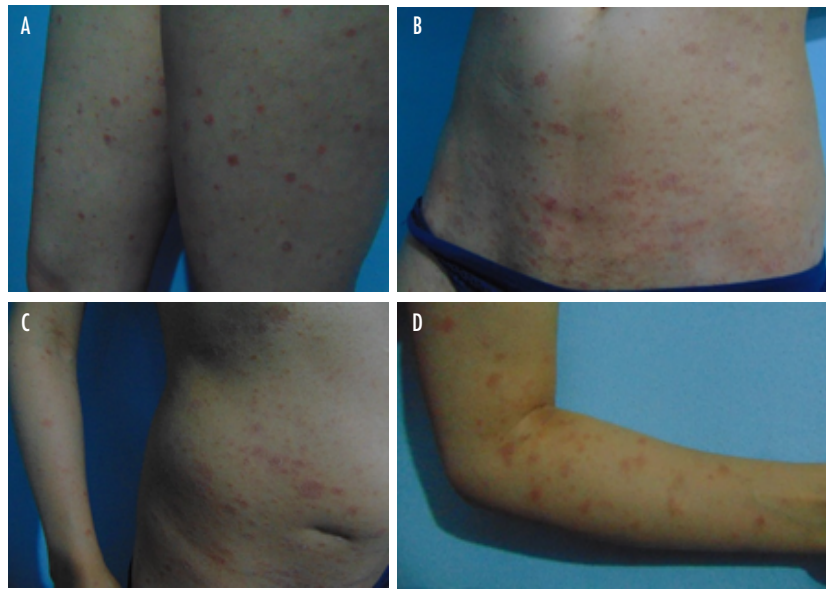
## CASE DESCRIPTION

This is the case of a 28-year-old health worker from Bogotá, Colombia, from a middle-class household. Her family history included the maternal grandmother with Alzheimer's disease, bipolar I disorder and hypertension; mother with breast cancer; and deceased father due to an acute myocardial infarction associated with a thoracic trauma one month after a car accident. She also reported a medical history of bipolar II disorder, retinal detachment, appendicectomy, Lasik and Yag laser, allergies to sulfa drugs, a sexual partner in the last 4 years, no previous pregnancies, and no tattoos. The timeline of her case is presented below.

14/10/2018: First appointment (symptoms for three days). The patient attended the emergency room due to punctiform skin lesions in the upper extremities, thorax, and neck. She also reported odynophagia, musculoskeletal pain, diarrhea without mucus or blood, fever (38°C) nausea and vomit. A general physician and a pediatrician considered a possible diagnosis of rubella, for which they prescribed acetaminophen, loratadine and rehydration salts. A nasopharyngeal swab for rubella and measles was performed, considering the presence of abnormal migration patterns in Colombia and her contact with patients in a clinical setting. An assessment from the internal medicine service was requested, which suspected secondary syphilis.

21/10/2018: The patient visited again the emergency room, this time in a tertiary care center. She reported the appearance of macular and punctiform lesions in the left arm 10 days earlier. The lesions, which showed a collaret desquamation, spread to the chest and abdomen, and three weeks later they appeared in the opposite arm and thighs (proximal third) (Figure 1). The palms, feet and scalp were spared and no adenopathy was observed.

She also presented with odynophagia, upper respiratory tract symptoms, and fever (38°C). Moreover, she referred moderate depression due to her underlying disease, which started weeks before the onset of the skin lesions. She denied dyspnea, or relatives with a similar condition. The heraldic plaque was neither described by the patient nor documented in the physical examination. IgM and IgG for rubella and measles were pending, and the emergency service also suspected HIV infection. She was finally referred to the dermatology service with a prescription of clemastine tablets 1mg every 8 hours for 5 days and loratadine 10mg every 12 hours for five days.



**Figure 1.** Aspect and distribution of the lesions. A) Lesions in the thighs of the patient; B) and C) Lesions in the abdomen; D) Lesions in the left upper limb.

Source: Document obtained during the study.

28/10/2018: Tests performed by both the health center and the surveillance institution (Bogotá's Health Department) reported negative results for measles and rubella (negative ELISA IgM). Electrochemiluminescence immunoassay on Cobas® platform yielded

negative results for HIV, antigen p24, and antibodies anti-HIV I and II were negative (Table 2). The patient also manifested that she had been given a medical leave for 4 weeks due to the contagious aspect of the lesions and because they persisted.

**Table 2.** Blood tests performed to the patient

Test	Date	Result	Reference values
Varicella-Herpes zoster virus	18/01/2015	34.2	Neg <9.0 Borderline 9-11 Pos >11.0
Anti-HIV antibodies	25/10/2018	0.20	Neg <0.90 Borderline 0.90-1.00 Reactive >1.00
Rubella IgM - ELISA	16/10/2018	Negative	NA
Measles IgM - ELISA	16/10/2018	Negative	NA

Source: Own elaboration.

30/10/2018: The patient attended her first appointment with the dermatology service with these results. After analyzing them, pityriasis rosea and guttate psoriasis

were suspected. Based on the course of the disease, pityriasis rosea was clinically diagnosed; however, a biopsy was requested to confirm this diagnosis. Oral steroids were

initiated (deflazacort 30mg for 21 days) with the following scheme:

1. Days 1 through 7: 1 tablet.
2. Days 8 through 14: ½ a tablet.
3. Days 15 through 21: ¼ of a tablet

Unfortunately, the patient did not have the biopsy taken.

15/11/2018: At her second appointment with the dermatology service, it was possible to observe that the lesions were resolving and further treatment with hydrocortisone cream 1% every 24 hours at night for 10 days was prescribed.

The skin lesions improved gradually until resolving 2 months later, without scarring. No recurrence has been reported to date and the patient reported that her psychiatric symptoms are under control.

## DISCUSSION

This case exposes some of the difficulties regarding the diagnosis of diseases in dermatology. In this case, the lack of some pathognomonic signs, such as the initial primary lesion and its distribution, complicated the final diagnosis and differentiated it from other cases reported in the

literature. (12,15,16) Another possible problem is the lack of biopsy, which, as previously stated, is not mandatory, bearing in mind that the diagnosis is mainly clinical but could have been used to provide stronger support for the final diagnosis.

The diagnosis of these types of cases is also hindered by the lack of dermatological education in medical schools. (25) The number of dermatologists is low, and they have been experiencing an increasing demand, treating over 2 000 medical conditions and approximately a quarter of the population that require dermatological care. (25)

Other relevant aspect of pityriasis rosea is its multiple forms with different clinical manifestations (Table 3), but there are two main variants. The most common is known as classic variant, which comprises 80-90% of the cases: one of the most important signs of this form is the heraldic plaque, which appears in all classic variant cases and earlier than any other dermatological sign. (14) The second form is atypical pityriasis rosea, which affects between 10-20% of the patients; in this variant, the heraldic plaque is absent and lesion distribution is different as well, being more frequent in arms, flexural areas, face, and mouth. Hypopigmentation or isolated papules may be observed in black patients. (14,26)

**Table 3. Clinical presentation of pityriasis rosea.**

Clinical presentation	Characteristics	Rate
Classic	Herald patch usually observed on the trunk. It is erythematous with slightly elevated scaly borders and a lighter depressed center, with 3cm in diameter. It can be the only dermatological manifestation for up to 2 weeks. Prodromal symptoms (~69% of the patients): malaise, fatigue, nausea, headache, joint pain, lymphadenitis, fever, sore throat. Rash: known as secondary eruption, it presents along the Langer lines on the trunk. It may extend to the upper arms and thighs and has a 'Christmas tree' pattern on the back and a V pattern on the chest. The mean duration of this exanthem is 45 days, but it can last up to 12 weeks. Pruritus occurs in 50% of the patients.	Up to 90% of the cases



Clinical presentation	Characteristics	Rate
Pediatric	Pityriasis rosea in children is similar to its presentation in adults. Black children may have more facial and scalp involvement and post-inflammatory pigmentary changes. The secondary rash tends to appear faster than in adults (4 days vs. 14 days on average). 50% have prodromal symptoms. Most cases have been described between 3 to 9 years of age.	
Atypical	<p>The distribution, morphology, size, and number of lesions may vary as follows:</p> <ol style="list-style-type: none"> <li>1. Pityriasis rosea of Darier: Fewer but larger lesions.</li> <li>2. Inversus pityriasis rosea: It involves face, axillae, and groin.</li> <li>3. Pityriasis rosea of Vidal: Larger patches on axillae or inguinal lesions.</li> <li>4. Herald patch on atypical locations: There are cases in which the herald patch has been found in unusual places, such as the sole.</li> <li>5. Inversus pityriasis rosea: Lesions are located on flexural areas, face, neck and acral areas. Trunk is not affected.</li> <li>6. Circinata and marginata pityriasis rosea: Seen mainly in adults, large lesions are located on limbs-girdle, hips, shoulders, axillae, or inguinal regions.</li> <li>7. Pityriasis of extremities: Typical lesions confined to the extremities; trunk is not affected.</li> <li>8. Acral pityriasis rosea: Lesions are exclusively located on palms, wrists, and soles. It does not involve the flexures.</li> <li>9. Purpuric or hemorrhagic pityriasis rosea: Macular purpuric lesions and petechia may appear over different locations, including the palate.</li> <li>10. Urticarial pityriasis rosea: Palpable itchy wheal-like lesions with peripheral collarette scaling following the lines of skin cleavage.</li> <li>11. Erythema multiforme-like pityriasis rosea: Classical lesions of the disease can be accompanied by targetoid lesions resembling erythema multiforme. They are distributed on trunk, face, arms, or neck. There is no history of herpes simplex infection.</li> <li>12. Papular pityriasis rosea: Multiple small papular lesions of 1-3mm in diameter. Lesions present with peripheral collarette and are distributed on the trunk and proximal extremities. It appears predominantly in young patients.</li> <li>13. Follicular pityriasis rosea: It has been described in children. It can initiate with pruritic plaques on abdomen, thighs, and groins, followed by a follicular eruption with central clearing and peripheral collarette. Prodromal symptoms are observed.</li> <li>14. Vesicular pityriasis rosea: It is characterized by a generalized itchy eruption of vesicles of 2-6mm in diameter with a rosette scaling. It has been described in young adults and children.</li> <li>15. Hypopigmented pityriasis rosea: It is similar to the classic form. It initiates with the herald patch and a secondary eruption with hypopigmented lesions from the start. Hypopigmentation is not secondary and may appear after classical pityriasis rosea.</li> <li>16. Irritated pityriasis rosea: Lesions with severe itch, pain, and burning sensation appear on contact with sweat.</li> </ol>	Approximately 10% of the patients
Relapsing	<p>The herald patch is absent and fewer and smaller lesions are observed. It can be seen in between 1.8-3.7% of the patients.</p> <p>It occurs within 5 to 18 months from initial episode. Multiple relapses are possible but rare. Duration is shorter and with less prodromal symptoms than the original episode.</p>	
Persistent	It lasts more than 3 months and its incidence appears to be low (~2%). Most patients have a herald patch and prodromal symptoms (75%). The eruption persists for 12-24 weeks. Oral lesions are common (75%) and may include: strawberry tongue, erythematous macules, vesicular lesions, and petechia.	
Recurrent	Multiple episodes of pityriasis rosea may occur in a lifetime on rare occasions.	
Special populations	Pregnant women seem to be more susceptible to pityriasis rosea due to their altered immune response. This condition increases the risk of spontaneous abortion, especially if the infection occurs in the first 15 weeks of gestation.	

Source: Own elaboration based on Drago *et al.*, (5) Urbina *et al.*, (15) Villalón-Gómez, (16) Drago *et al.* (27) and Chuh *et al.* (28)

The diagnosis of pityriasis rosea is mainly clinical. Biopsy, although neither crucial nor necessary, may show the following pathological findings: epidermal hyperplasia, localized hyperkeratosis, absence or reduction of stratum granulosum, dermal spongiosis, extravascular erythrocytes, and perivascular lymphocytic infiltrates. (14) Several diagnostic criteria have been developed to achieve its diagnosis (Table 4). (28)

**Table 4. Diagnostic criteria of atypical pityriasis rosea**

Characteristics	Essential clinical features	Optional clinical features	Exclusion clinical features
<b>ALL</b> the essential clinical features are observed in the patient on at least one occasion, with <b>AT LEAST ONE</b> of the optional clinical features.	Discrete circular or oval lesions Scaling on most lesions Peripheral collarette scaling with central clearance	Truncal and proximal limb distribution with less than 10% of the lesions located distal to mid-upper-arms and mid-thighs. Orientation of most lesions along skin cleavage lines. A herald patch appearing at least 2 days before eruption	Multiple small vesicles at the center of two or more lesions Two or more lesions on plantar and palmar surfaces Clinical or serological evidence of secondary syphilis
<b>NO</b> exclusion clinical features are present on all occasions.			

Source: Own elaboration based on Chuh *et al.* (28)

Differential diagnosis includes secondary syphilis, toxicoderma, some types of psoriasis (the guttate variant), HIV infection, ringworm of the body, seborrheic dermatitis, among others. (14) More information regarding these and other differential diagnosis can be seen in Table 5.

**Table 5. Differential diagnosis of pityriasis rosea.**

Clinical condition	Characteristics
Gianotti-Crosti syndrome	Monomorphic, pink-brown papules. Involvement of at least three of the following sites: i) cheeks, ii) buttocks, iii) extensor aspect of forearms and iv) extensor surface of legs. Symmetrical Duration of more than 10 days. Absence of i) scaly lesions, ii) extensive trunk lesions
Lichen planus	Small violaceous papules (1-10mm in diameter). Lesions on wrists, lumbar region, shin, scalp, penis glans, and mouth. This disease may be asymptomatic.
Nummular eczema	Small vesicles and papules that group in small-coined lesions (4-5cm in diameter), with erythematous plaques and distinct borders, and intense pruritus, often in legs and back of hands.
Pityriasis lichenoides chronica	Red-brown papules with central mica-like scales, randomly arranged on trunk and extremities. It is a chronic and relapsing condition. Alteration of skin pigmentation may be observed.
Pityriasis rosea-like drug eruptions	Similar presentation to the classic form. Symptoms resolve after medication is suspended. Associated medications include adalimumab, allopurinol, arsenic compounds, aasenapine, atelonol, barbiturates, bismuth, bupropion, captopril, clonidine, clozapine, ergotamine, etanercept, hepatitis B vaccine, yellow fever vaccine, interferon $\alpha$ -2a, isotretinoin, ketotifen, lamotrigine, smallpox vaccine, omeprazole, among others.



Clinical condition	Characteristics
Seborrheic dermatitis	Orange-red or gray-white skin with greasy or white dry scaling. Diffuse scalp involvement. Condition worsens with dry conditions. Pruritus increases with perspiration.
Secondary syphilis	Round or oval brownish-red or pink macules of 0.5-1 cm, affecting the trunk, palms, and soles. Patchy alopecia. Mucous membrane involvement with round or oval patches covered by hyperkeratotic white-to-gray membrane.
Ringworm of the body (tinea corporis)	Scaling, sharply marginated plaques with or without pustules or vesicles along margins. Lesions present with peripheral enlargement and central clearing. Annular configuration with concentric or arcuate lesions.
Viral exanthems	Diffuse maculopapular erythema. Mucosal involvement with microulcerative lesions, palatal petechiae or conjunctivitis. Associated with lymphadenopathy, hepatomegaly, and splenomegaly.

Source: Own elaboration based on Villalón-Gómez (16), Chuh *et al.*, (28) Stulberg & Wolfrey, (29) Chuh *et al.*, (30) Stratigos *et al.*, (31) Brzezinski & Chiriac, (32) Polat *et al.*, (33) Makdisi *et al.*, (34) Papadavid *et al.*, (35) Bangash *et al.*, (36) Sezer *et al.*, (37) Lai *et al.*, (38) Atzori *et al.*, (39) Chen *et al.*, (40) Guarneri *et al.*, (41) Rajpara *et al.*, (42) Güleç *et al.*, (43) Scheinfeld, (44) Brazzelli *et al.*, (45) Aydoğan *et al.*, (46) Atzori *et al.*, (47) Gaertner *et al.*, (48) Sasmaz *et al.*, (49) Durusoy *et al.*, (50) Gupta *et al.*, (51) Buckley, (52) George *et al.* (53) and Gürel *et al.* (54)

Besides all aspects mentioned above, the number of patients may grow considering that general practitioners do not have sufficient information on this viral rash and refer many patients with benign conditions for assessment (for example, a dermatologist may expect to treat between 20-40 benign lesions for every melanoma diagnosed). (55) Moreover, there is a significant disparity between demand and available resources, as well as inadequate education in medical schools, a scarcity of dermatologists, and lack of standardized training. (25,56) For instance, on average, a medical student receives no more than six days of training in dermatology, even when skin disorders account for a quarter of all general practitioner appointments. (25,56,57) This care crisis may worsen as a result of changes in governmental policies, which can increase costs, lead to neglect of patients in need, and destroy medical education. (58) This is true for many health systems around the world, with

health inequities potentially aggravating the situation. (56,58,59) Therefore, reinforcement and practices regarding dermatology, using new and old technologies, should be implemented in medical schools. (56,60,61)

Furthermore, there are similarities and differences with other cases published in the literature and with other cases of atypical pityriasis rosea since no herald patch was found anywhere in the body, although it was looked for even in atypical locations. (15,62)

The clinical characteristics observed in this patient, who is an adult, are incompatible with other types of atypical pityriasis rosea; for example, the form of the lesions and their localization are different from the form circinata and marginata, (63,64) and the distribution was not the one expected for the inversus, (65) extremities (15) or acral forms. (66) Moreover, the lesions resembled those of the classical form and were not compatible with the lesions found in other atypical cases such as purpuric,

(67) urticarial, (67) erythema multiforme-like, (68) papular, (67) follicular (69) vesicular or others. (58)

Finally, it is worth noting that the patient had moderate depression, which was diagnosed before developing the condition, and that it has been associated with the onset of pityriasis rosea. Such an association has been reported and presented in other cases and could be explained by immunological compromise. (62)

One of the strengths of this case were the early notification of the case to the surveillance system, the comprehensive assessment done on the patient, and the differential diagnosis that were considered and ruled out. It is worth noting that based on some of the results obtained in clinical tests, this case seems to be associated with infection and reactivation of herpesvirus, which coincides with other cases. (62) One of the weaknesses is the lack of a biopsy to confirm the diagnosis.

## CONCLUSIONS

Pityriasis rosea is a self-limited disease possibly associated with stress periods and infection with HHV6 and HHV7. It can be difficult to diagnose because it has multiple forms, so physicians must have deep knowledge of dermatological diseases and a high suspicion of its presentation. This case is particularly relevant because the patient presented with atypical manifestations.

## STATEMENT OF TRANSPARENCY

The authors state that all the information contained in these pages is true, honest and transparent, that no aspect of the case was omitted, and that all relevant characteristics or differences were exposed.

## INFORMED CONSENT

Written informed consent was obtained from the patient for the publication of this case and the photographs contained therein.

## PATIENT'S PERSPECTIVE

The patient understood the importance of follow-ups and treatment recommendations. Although some aspects of her life were affected, such as her working routine up to a certain extent, other aspects of her daily life did not change, including her relationships, her mood—which remained stable—and her self-image—which suffered from a bit of frustration and some alterations that did not last long.

## CONFLICT OF INTERESTS

None stated by the authors.

## FUNDING

None stated by the authors.

## ACKNOWLEDGEMENTS

None stated by the authors.

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