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CASE REPORT

Confluent and Reticular Papillomatosis (Gougerot-Carteaud Syndrome) in a 15-Year-Old Adolescent: A Case Report

Papilomatosis Confluente Y Reticulada (Síndrome De Gougerot-Carteaud) En Una Adolescente De 15 Años: Reporte De Caso

Papilomatose Confluente e Reticulada (Síndrome de Gougerot-Cartaud) em uma Adolescente de 15 Anos: Relato de Caso

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ABSTRACT

Introduction: confluent and reticulated papillomatosis (CRP) is a rare dermatosis described more than 60 years ago and recognized as a distinct entity from acanthosis nigricans. Its etiology is not fully understood; however, it has been associated with abnormalities in keratinization and with the presence of Dietzia spp. on the skin. In some cases, possible associations with endocrine disorders have also been suggested.

Objective: to present a case of confluent and reticulated papillomatosis in an adolescent with a possible association with an endocrine disorder.

Method: a retrospective review was conducted of the case of a 15-year-old female patient evaluated in the outpatient clinic for dermal lesions, whose diagnosis was confirmed by skin biopsy

Case Presentation: a 15-year-old female presented with pruritic brown papular lesions distributed over the abdomen and chest, with an approximate one-year course. The lesions did not improve after antifungal treatment or corticosteroid therapy. Clinically, hyperkeratotic papules were observed coalescing into central plaques with a peripheral reticulated pattern. Main findings: Histopathological examination of the skin biopsy revealed an orthokeratotic epidermis with irregular acanthosis and papillomatosis with digitiform projections, as well as compact hyperkeratosis, focal areas of parakeratosis, and mild basal layer hyperpigmentation without cytological atypia. Additional laboratory studies, including ACTH, IgE, and vitamin D levels, were performed to rule out possible associated endocrine abnormalities

Conclusion: CRP should be considered in the differential diagnosis of papillomatous and reticulated dermatoses in adolescents. Furthermore, a comprehensive evaluation, including screening for possible endocrine disorders, is important for an appropriate diagnostic and therapeutic approach

Keywords: Confluent and reticulated papillomatosis; keratinization; skin biopsy; minocycline.

RESUMEN

Introducción: la papilomatosis confluente y reticulada (PCR) es una dermatosis poco frecuente, descrita hace más de 60 años y reconocida como una entidad distinta de la acantosis nigricans. Su etiología no está completamente esclarecida; sin embargo, se ha relacionado con alteraciones de la queratinización y con la presencia de Dietzia spp. en la piel. En algunos casos también se han sugerido asociaciones con alteraciones endocrinas.

Objetivo: presentar un caso de papilomatosis confluente y reticulada en una adolescente con posible asociación a un trastorno endocrino.

Método: se realizó una revisión retrospectiva del caso de una paciente de 15 años, valorada en consulta externa por lesiones dérmicas, cuyo diagnóstico fue confirmado mediante biopsia.

Presentación Caso: paciente femenina de 15 años que consultó por lesiones papulares pruriginosas de color marrón, diseminadas en abdomen y tórax, con una evolución aproximada de un año. Las lesiones no mostraron mejoría tras tratamiento antifúngico ni corticoterapia. Clínicamente se observaron pápulas hiperqueratósicas que confluyen formando placas centrales con patrón reticular periférico. Hallazgos principales: El estudio histopatológico de la biopsia cutánea evidenció epidermis ortoqueratósica con acantosis irregular y papilomatosis con proyecciones digitiformes, además de hiperqueratosis compacta, discretas áreas de paraqueratosis focal y leve hiperpigmentación de la capa basal, sin atipia citológica. Se realizaron estudios de laboratorio complementarios, incluidos ACTH, IgE y vitamina D, para descartar posibles alteraciones endocrinas asociadas

Conclusión: la PCR debe considerarse dentro del diagnóstico diferencial de las dermatosis papilomatosas y reticuladas en adolescentes. Asimismo, es importante realizar una evaluación integral que incluya la pesquisa de posibles alteraciones endocrinas para un abordaje diagnóstico y terapéutico adecuado.

Palabras Clave: Papilomatosis confluente y reticulada; queratinización; biopsia de piel; minociclina.

RESUMO

Introdução: a papilomatose confluente e reticulada (PCR) é uma dermatose pouco frequente, descrita há mais de 60 anos e reconhecida como uma entidade distinta da acantose nigricante. Sua etiologia não está completamente esclarecida; no entanto, tem sido relacionada a alterações da queratinização e à presença de *Dietzia* spp. na pele. Em alguns casos, também têm sido sugeridas associações com alterações endócrinas.

Objetivo: apresentar um caso de papilomatose confluente e reticulada em uma adolescente com possível associação a um transtorno endócrino.

Método: foi realizada uma revisão retrospectiva do caso de uma paciente de 15 anos, avaliada em consulta ambulatorial por lesões cutâneas, cujo diagnóstico foi confirmado por meio de biópsia.

Apresentação do caso: paciente do sexo feminino, de 15 anos, que procurou atendimento por lesões papulares pruriginosas de coloração marrom, disseminadas no abdome e no tórax, com evolução aproximada de um ano. As lesões não apresentaram melhora após tratamento antifúngico nem com corticoterapia. Clinicamente, observaram-se pápulas hiperqueratósicas que confluíam formando placas centrais com padrão reticulado periférico.

Principais achados: o estudo histopatológico da biópsia cutânea evidenciou epiderme ortoqueratósica com acantose irregular e papilomatose com projeções digitiformes, além de hiperqueratose compacta, discretas áreas de paraqueratose focal e leve hiperpigmentação da camada basal, sem atipia citológica. Foram realizados exames laboratoriais complementares, incluindo ACTH, IgE e vitamina D, para excluir possíveis alterações endócrinas associadas.

Conclusão: a PCR deve ser considerada no diagnóstico diferencial das dermatoses papilomatosas e reticuladas em adolescentes. Além disso, é importante realizar uma avaliação integral que inclua a investigação de possíveis alterações endócrinas, para um adequado manejo diagnóstico e terapêutico.

Palavras-chave: Papilomatose confluente e reticulada; queratinização; biópsia de pele; minociclina.

INTRODUCTION

Confluent and reticulated papillomatosis (CRP), also known as Gougerot-Carteaud syndrome, is an uncommon dermatosis that has been associated with disorders of keratinization. It was originally described by Gougerot and Carteaud and is considered a distinct entity from acanthosis nigricans. Clinically, it is characterized by hyperpigmented macules or papules with a

papillomatous surface that coalesce into plaques with a reticulated pattern, most frequently located on the neck, trunk, and intertriginous areas.[1, 3]

Its etiology remains a matter of debate. Proposed mechanisms include abnormal keratinization, the involvement of cutaneous microorganisms such as Malassezia spp. or Dietzia spp., and a possible association with metabolic or endocrine disorders. Several case series have reported that it most commonly occurs in adolescents and young adults, with variations in sex and age distribution depending on the population studied.[1, 2, 4]

This case highlights the diagnostic and therapeutic challenges associated with CRP and underscores the need for further investigation into its pathophysiological mechanisms. Various therapies have been used with variable results; however, minocycline has been reported as one of the most effective treatments, with good clinical response and a low recurrence rate during follow-up.[1, 5]

Other antibacterial agents that have been used include fusidic acid, clarithromycin, erythromycin, tetracycline, and cefdinir. In addition, other oral treatments have been described, such as isotretinoin, acitretin, and etretinate, as well as topical therapies with variable results, including selenium sulfide, ketoconazole, tretinoin, tazarotene, tacalcitol, and calcipotriol.[1, 6, 7]

A retrospective review was conducted of the case of a 15-year-old female patient evaluated in the outpatient setting for skin lesions, with the diagnosis confirmed by skin biopsy.

CASE PRESENTATION

A 15-year-old adolescent girl presented with confluent dark-brown papules located on the chest and abdomen, with an approximate duration of one year and a history of irregular treatment with fluconazole and betamethasone, without clinical improvement. Based on the clinical and histopathological findings, the condition was consistent with confluent and reticulated papillomatosis (Gougerot-Carteaud syndrome).

On physical examination, the patient was in good general condition and hemodynamically stable, with a heart rate of 70 beats per minute, a respiratory rate of 17 breaths per minute, an oxygen saturation of 96%, and an axillary temperature of 36.2 °C. Anthropometric measurements showed a height of 151 cm, a weight of 43 kg, and a body mass index of 18.85 kg/m^2. On neurological examination, she was awake, conscious, oriented, and scored 15/15 on the Glasgow Coma Scale. Evaluation of the skin and adnexa showed adequate hydration, preserved elasticity and skin turgor, and a capillary refill time of 2 seconds.

Dermatological examination revealed elevated, hyperkeratotic, mildly pruritic brown papules with poorly defined borders and a characteristic distribution consisting of a confluent central pattern and a peripheral reticulated pattern on the abdomen and anterior chest, associated with slightly erythematous brownish areas and perilesional dermographism. These clinical findings are shown in Figures 1A and 1B.

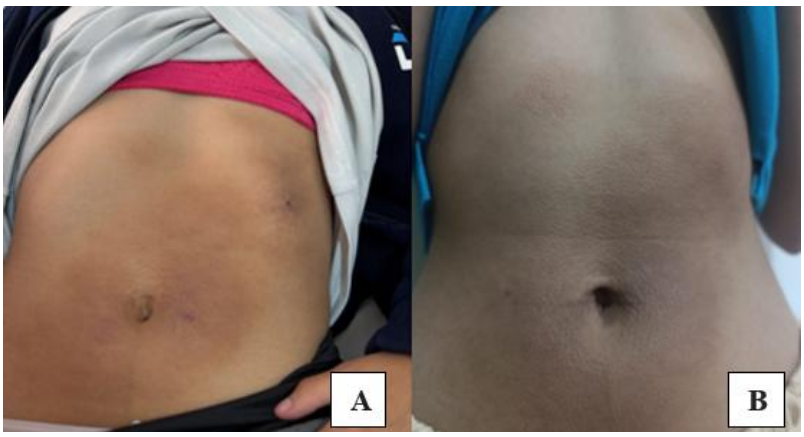

Figure 1 (A-B). Cutaneous lesions on the chest and abdomen.

A: Initial presentation. B: Clinical evolution of the lesions.

Regional physical examination showed a normocephalic skull, a mobile neck without lymphadenopathy, a symmetrical chest with regular heart sounds and clear lung fields without added sounds, a symmetrical, soft, and non-tender abdomen, as well as extremities with preserved muscle strength and present reflexes.

The electrocardiogram showed sinus rhythm, a PR interval of 160 ms, a QRS duration of 90 ms, a QT interval of 360 ms, an electrical axis close to −90°, incomplete right bundle branch block, and right ventricular hypertrophy. Therefore, further evaluation was considered necessary to rule out structural heart disease; however, this assessment could not be completed during follow-up (Figure 3).

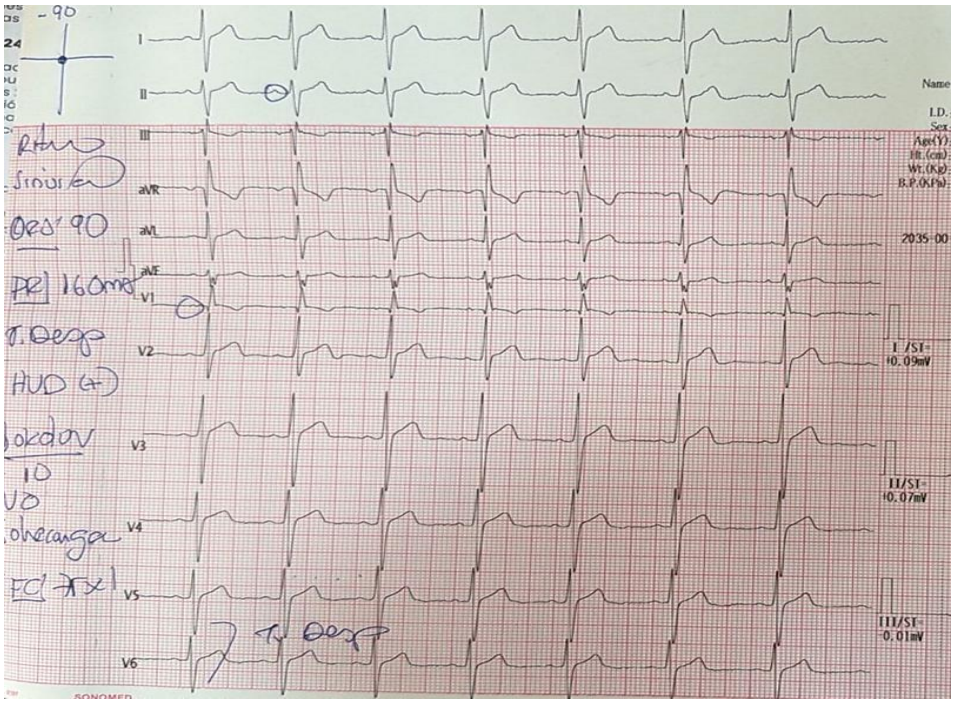

Figure 2. Incomplete right bundle branch block and right ventricular hypertrophy.

Laboratory studies showed elevated ACTH (333.00 pg/mL), elevated total IgE (746.1 IU/mL), and a total vitamin D level of 24.33 ng/mL. Finally, the histopathological examination of skin biopsy specimens obtained from the abdominal skin was consistent with confluent and reticulated papillomatosis of Gougerot-Carteaud, thereby confirming the proposed clinical diagnosis; the clinicopathological correlation is shown in Figure 3.

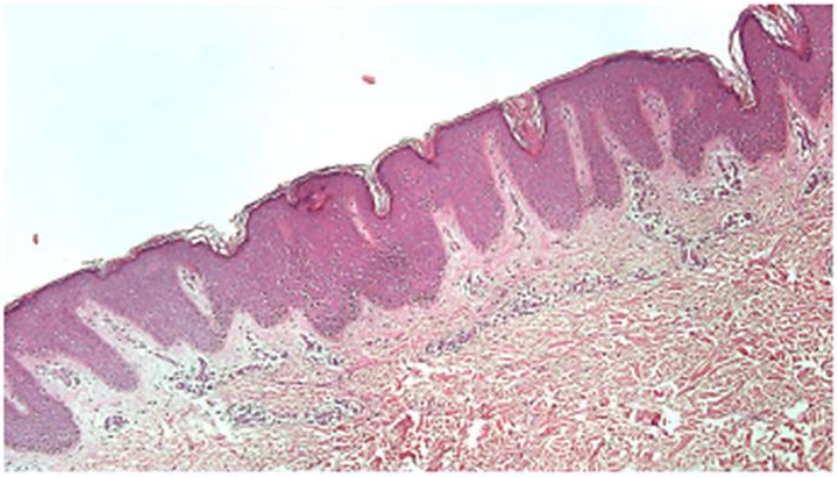

Figure 3. Skin biopsy

DISCUSSION

Confluent and reticulated papillomatosis (CRP) is an uncommon and underdiagnosed cutaneous disorder of uncertain etiology. Although its exact cause remains unknown, it has been proposed that it may be related to a keratinization defect, either genetic or acquired. Some authors have also suggested a possible association with Malassezia furfur, either due to keratinization abnormalities secondary to its colonization or to an abnormal host response to this microorganism. However, this hypothesis remains controversial, as in many cases no clinical improvement is observed with antifungal therapy.[1, 2]

From a clinical perspective, CRP usually presents as hyperpigmented papules with a reticulated pattern that tend to coalesce and are mainly distributed on the trunk, neck, and proximal portions of the upper extremities. The findings observed in this patient are consistent with the clinical features described in the literature.[2, 4, 8]

Regarding the histopathological findings, several studies have described hyperkeratosis, acanthosis, and papillomatosis, occasionally accompanied by a mild inflammatory infiltrate in the superficial dermis. These features were also identified in the patient's biopsy specimen, supporting the diagnosis of confluent and reticulated papillomatosis.[1, 2]

A possible association between this condition and endocrine disorders, such as obesity, type 2 diabetes mellitus, hirsutism, Cushing syndrome, and thyroid abnormalities, has also been reported. In this case, the elevated ACTH level prompted further endocrinological evaluation; however, the assessment could not be completed.[2]

With regard to treatment, the literature identifies minocycline as the treatment of choice, generally administered for several months. Its efficacy is thought to be related not only to its antibacterial properties but also to its anti-inflammatory effects. In addition, some authors suggest that complementary measures, such as the management of underlying endocrine disorders when present, may contribute to better disease control.[1, 2, 9]

CONCLUSION

Confluent and reticulated papillomatosis (CRP) is an uncommon and often underdiagnosed dermatologic entity whose clinical and histopathological recognition is essential for an appropriate therapeutic approach. Although its etiology remains uncertain, current evidence suggests the

involvement of keratinization abnormalities and the possible role of microorganisms such as Dietzia spp. or Malassezia furfur, as well as its association with endocrine disorders.

The present case highlights the importance of considering CRP in the differential diagnosis of hyperkeratotic dermatoses that do not respond to conventional antifungal or corticosteroid therapy. Confirmation by skin biopsy is essential to establish the definitive diagnosis.

Regarding treatment, minocycline continues to be considered the drug of choice because of its efficacy and its dual antibacterial and anti-inflammatory action. However, other therapeutic alternatives, such as azithromycin, may be considered depending on tolerance and the clinical context.

Further research is needed to clarify the underlying pathophysiological mechanisms, possible genetic influences, and responses to new therapeutic regimens in order to optimize the clinical management of this disease. Long-term follow-up and patient education are essential to reduce recurrences and improve quality of life.

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INFORMED CONSENT

Informed consent was obtained from the patient for the preparation of this report

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

AUTHOR CONTRIBUTIONS

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