CASO CLÍNICO

Almohadillas articulares. Revisión médica y reporte de un caso

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Palabras clave: Almohadillas articulares, Nódulos de Garrod, Articulaciones de los dedos

RESUMEN

Las almohadillas articulares o nódulos de Garrod son lesiones cutáneas nodulares benignas que afectan el dorso de las articulaciones interfalángicas proximales y metacarpofalángicas de las manos. Rara vez constituyen una causa de consulta al dermatólogo por lo cual los reportes de casos son escasos en la literatura médica. Reportamos el caso de un niño de 12 años de edad que presentaba lesiones nodulares secundarias a traumatismos constantes de 4 años de evolución. Fue diagnosticado como almohadillas articulares.

INTRODUCCIÓN

Las almohadillas articulares también llamadas knuckle pads o nódulos de Garrod son lesiones papulonodulares benignas que con frecuencia se encuentran sobre las articulaciones interfalángicas proximales y metacarpofalángicas de las manos. Suelen ser asintomáticos sin comprometer las articulaciones y el movimiento de éstas.[1] Se presentan más en varones de la tercera y quinta década de vida, sin embargo también pueden aparecer en la adolescencia.[2]

Pueden ser secundarios a enfermedades fibrosas como la de Dupuytren, Peryone y síndrome de Ledderhose, traumatismos repetitivos por deportes como boxeo o surf o por trastornos psiquiátricos que causan succión, fricción y chasquido continuo de los dedos.[1] Estas lesiones también pueden estar asociadas a síndrome metabólico especialmente con obesidad abdominal o hipertensión con o sin la presencia de diabetes mellitus tipo 2.[2]

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Paciente masculino de 12 años de edad sin antecedentes familiares de importancia y antecedentes personales de dermatitis atópica, acude al Centro Dermatológico Úraga por la presencia de lesiones foliculares ubicadas en brazos, parte anterior de muslos en forma bilateral y simétrica además en zona abdominal. A la exploración física llama la atención pápulas nodulares hiperqueratósicas demarcadas, ubicadas en superficie extensora de la primera y segunda articulación interfalángica proximal de forma bilateral y simétrica, de 4 años de evolución, las que su madre relacionaba con mordisqueo continuo en época escolar (Figura 1 y 2). A la dermatoscopía se observa una lesión cuya imagen muestra una apariencia elevada e infiltrada y de un color rosado lechoso acompañada de descamación en toda su superficie sin que se observen estructuras vasculares evidentes ni capilares trombosados como se vería en caso de verrugas virales (Figura 3). Por los hallazgos clínicos del paciente se estableció el diagnóstico de almohadillas articulares, no requiriéndose biopsia de piel.

DISCUSIÓN

Las almohadillas articulares o nódulos de Garrod fueron descritos por primera vez en la literatura médica por

Figura 1. Almohadillas articulares en dorso 1° y 2° articulación interfalángica proximal de manos.

Figura 2. Nódulos color rosado en mano derecha

Figura 3: Dermatoscopia que muestra coloración rosado lechosa y múltiples pequeñas escamas

Tabla 1. Casos reportados de almohadillas articulares en la literatura médica

REPORTE DE CASOS	REVISTA	AUTORES
Pathology of "Knuckle Pads" Study of Four Cases	Virchows Arch. A Path. Anat. And Histol 1975	Lagier R. and Meineeke R.
Knuckle Pads in Children	AJDC 1986	Paller A., Hebert A.
Papules and Plaques Over the Joint Spaces	Arch dermatol. 1993	Kodama B., Gentry R., Fitzpatrick J.
Knuckle Pads: Does Knuckle Cracking Play an Etiologic Role?	Pediatric dermatology 2000	Peterson C., Barnes C. , Davis L.
Pseudo-knuckle pads: an unusual cutaneous sign of obsessive-compulsive disorder in an adolescent patient	The Turkish Journal of Pediatrics 2003	Çalýkoðlu E.
A Novel Treatment for Knuckle Pads With Intralesional Fluorouracil	Arch dermatol 2007	Weiss E, Amini S.
Knuckle Pads – A common problem but good to treat by Laser	Aip conference proceedings (2010)	Herold M., Russe-Wilflingseder K.
Fibromatosis palmoplantar y nódulos de los nudillos	Piel 2010	Batalla A., Feal C., Prieto O., de la Torre C.
Knuckle pads – a rare finding	Journal of Ultrasonography 2012	Tamborrini G., Gengenbacher M., Bianchi S.
Report of a Family with Idiopathic Knuckle Pads and Review of Idiopathic and Disease-associated Knuckle Pads	Dermatology Online Journal, 2013	Hyman A., Cohen C., Philip R.
Characterization of Knuckle (Garrod) Pads Using Optical Coherence Tomography In Vivo	Cutis 2015	Luber A., Bienenfeld A., Clark C., Markowitz O.
Imaging Features of Knuckle Pads	Journal of the Belgian Society of Radiology 2016	De Keersmaeker A., Vanhoenacker F.
Acrokeratoelastoidosis and Knuckle Pads Coexisting in a Child	Cutis 2018	Barrick C., Moran J., Oram C, Purcell S.
A novel treatment for idiopathic knuckle pads with cantharidin-podophylotoxin-salicylic acid	Pediatric Dermatology 2019	Hasbún C., Sandoval M., Maximiliano C.

Garrod en 1893. Sin embargo ésto ya era conocido en la época renacentista por Miguel Ángel, quien las poseía debido al traumatismo continuo, causado por sus obras artísticas; y a su vez lo plasmó en sus esculturas: David, Moisés, Victoria y Giuliano de Medici.[1,3,4] Las lesiones previamente se conocían con el nombre de tilosis articular, helioderma, fibroma benigno, queratosis supracapitular, pulvinus o fibroma subcutáneo.[2,5] Son lesiones queratósicas asintomáticas, blandas a la palpación que miden entre 0.5-1.5 cm de diámetro.[6-8] Por lo general, se

presentan más en las articulaciones interfalángicas distales que en las metacarpofalángicas y rara vez en las rodillas o los pies.[9]

Afecta tanto a varones como a mujeres, siendo su ocupación un factor importante para su formación.[4] La edad de presentación está entre los 30-50 años, no obstante se reportan casos en niños.[2,9]

Generalmente son lesiones hereditarias o adquiridas, solitarias o múltiples, en algunos casos de origen idiopático o asociado a enfermedades como fibromatosis, en menor medida, queratodermia palmo-plantar, seudoxantoma elástico entre otras.[7,10] Existen dos reportes de casos familiares de almohadillas articulares relacionados a sordera neurosensorial y leuconiquia más conocido como Bart-Pumphrey, de herencia autosómica dominante debido a mutación en el gen GJB2.[7,11–13] Ritter et al. describen un caso asociado de almohadillas articulares con leucoplasia y cáncer de esófago.[5]

Ante la falta de reconocimiento de las lesiones existen pocos casos reportados en la literatura médica, algunos de ellos hemos recolectado en la siguiente revisión (Tabla 1).[3,6,8–10,14–22]

El diagnóstico está basado en la morfología clínica de las lesiones.[6] Se requieren estudios complementarios si hay relación con otras enfermedades y otros familiares afectados, así la biopsia de piel en caso necesario nos revela acantosis, hiperqueratosis, paraqueratosis, además hay proliferación de fibroblastos capilares y un grupo de bandas de colágeno irregulares engrosados.[2,19,21] En el caso de almohadillas articulares inducido por traumatismo, la epidermis presenta áreas de depresión y pérdida de la superficie.[23]

La ecografía nos muestra una estructura hipoecoica sobre los tendones y engrosamiento de la piel diferenciándola de otras patologías.[2]

En la radiografía únicamente se muestra un aumento de partes blandas, sin presencia de erosiones ni de alteración del espacio articular.[1]

El diagnóstico diferencial incluye tofos gotosos que son nódulos dolorosos color amarillo en articulaciones interfalángicas distales, los nódulos reumatoides que son móviles asintomáticos, las pápulas de Gottron que son placas violáceas en la superficie extensora de las articulaciones interfalángicas distales,[2] otras lesiones a diferenciar son cicatrices, verrugas, granuloma por cuerpo extraño, fibromas, xantomas.[10]

Generalmente no se requiere de tratamiento puesto que los nódulos son asintomáticos y en caso de ser secundarios a trauma se le pide al paciente dejar el hábito que ocasiona sus lesiones.[24] En ciertos casos se utiliza corticoides tópicos, queratolíticos como ácido salicílico, úrea o la aplicación de 5-fluorouracilo que reducen el tamaño de la lesión.[1,20,23] Herold y cols. sugieren el uso de Erbium YAG láser de pulso largo en pacientes que tienen alta recurrencia, sin olvidar el riesgo de presentar queloide y de poseer anclaje al tendón después de varias resecciones quirúrgicas de la lesión.[21]

Hasbún y cols. nos reporta un caso con resultados cosméticos aceptables combinando cantaridina 1%, podofilotoxina 5% y ácido salicílico al 30%.[17]

El tratamiento quirúrgico en las almohadillas articulares de origen idiopático no es recomendable por la alta recurrencia de las lesiones y formación de cicatrices.[6] En nuestro caso el hallazgo de las lesiones clínicas de causa traumática no requirió de estudios complementarios como se sugiere en las de origen primario.

CONCLUSIÓN

Las almohadillas articulares o nódulos de Garrod son una patología poco conocida en la literatura médica dermatológica, su correcto diagnóstico descarta no solo su origen traumático sino su posible relación con otras enfermedades.

Un buen interrogatorio durante la historia clínica permite descartar posibles diagnósticos como enfermedades asociadas a fibromatosis, nódulos reumatoides, pápulas de Gottron o granulomas de cuerpo extraño.

En el caso de las almohadillas articulares por traumatismo es necesario pedir al paciente dejar el hábito o derivarlo a un psicólogo para obtener la ayuda correspondiente.

Es necesario considerar tratamientos mínimamente invasivos y sin efectos colaterales que eviten la recurrencia.

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CASE REPORT

Knuckle pads. Medical review and case report

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Palabras clave: Knuckle pads Garrod's pads, Finger joints

ABSTRACT

Knuckle pads or Garrod's pads are benign cutaneous nodules affecting the dorsum of the proximal interphalangeal and metacarpophalangeal joints of the hands. They are rarely examined at a dermatologist's office, hence the few case reports in medical literature. The case of a 12-year-old boy presenting with trauma-induced nodules of 4-year evolution is reported.
Diagnosis of knuckle pads was made.

INTRODUCTION

Knuckle pads, also known as Garrod's pads, are benign papulonodular lesions, frequently located at the metacarpophalangeal and proximal interphalangeal joints of the hands. They are usually asymptomatic and don't compromise the joints or motion[1] Knuckle pads mainly occur in males during their third and fifth decade of life. Nonetheless, they can also manifest through adolescence[2]

Knuckle pads may be secondary to fibrous diseases, such as Dupuytren's contracture, Peyronie's disease and Ledderhose's disease, as well as repetitive trauma due to boxing or surfing and psychiatric disorders causing continuous finger suction, friction and snapping. These lesions may also be associated to metabolic syndrome, especially abdominal obesity or hypertension with or without type 2 diabetes mellitus[2]

CLINICAL CASE

A 12-year-old male patient with personal history of atopic dermatitis, without any other relevant family history, attended to the Dermatology Center Dr. Úraga presenting with follicular lesions in the arms, the anterior part of the thigh (bilaterally and symmetrically), as well as the abdominal area. Physical examination revealed demarcated hyperkeratotic nodular papules of 4-year evolution, bilaterally and symmetrically located at the extensor surface of the first and second proximal interphalangeal joint; lesions that the patient's mother associated with incessant biting throughout school (Figures 1 and 2). Dermoscopy showed a lesion displaying a milky pink elevated and infiltrated appearance, accompanied by surface desquamation without evident vascular structures nor thrombosed capillaries as in the case of viral warts (Figure 3). Clinical findings of the patient established knuckle pads as diagnosis. Skin biopsy was not required.

DISCUSSION

Knuckle pads or Garrod nodules were firstly described in the medical literature by Garrod in 1893. Nonetheless, these lesions were already acknowledged by Michelangelo during the renaissance period. He suffered from knuckle pads due to persistent trauma caused by his artistic labor. Concurrently, such condition was expressed through his line of sculptures: David, Moses,

Figure 1. Dorsal knuckle pads located at the first and second proximal interphalangeal joint of hands.

Figure 2: Pink nodes in the right hand.

Figure 3: Dermoscopy reveals milky pink coloration and multiple small flakes.

Table 1. Reported cases of knuckle pads in medical literature.

CASE REPORT	JOURNAL	AUTHORS
Pathology of "Knuckle Pads" Study of Four Cases	Virchows Arch. A Path. Anat. And Histol 1975	Lagier R. and Meineeke R.
Knuckle Pads in Children	AJDC 1986	Paller A., Hebert A.
Papules and Plaques Over the Joint Spaces	Arch dermatol. 1993	Kodama B., Gentry R., Fitzpatrick J.
Knuckle Pads: Does Knuckle Cracking Play an Etiologic Role?	Pediatric dermatology 2000	Peterson C., Barnes C. , Davis L.
Pseudo-knuckle pads: an unusual cutaneous sign of obsessive-compulsive disorder in an adolescent patient	The Turkish Journal of Pediatrics 2003	Çalýkoðlu E.
A Novel Treatment for Knuckle Pads With Intralesional Fluorouracil	Arch dermatol 2007	Weiss E, Amini S.
Knuckle Pads – A common problem but good to treat by Laser	Aip conference proceedings (2010)	Herold M., Russe-Wilflingseder K.
Fibromatosis palmoplantar y nódulos de los nudillos	Piel 2010	Batalla A., Feal C., Prieto O., de la Torre C.
Knuckle pads – a rare finding	Journal of Ultrasonography 2012	Tamborrini G., Gengenbacher M., Bianchi S.
Report of a Family with Idiopathic Knuckle Pads and Review of Idiopathic and Disease-associated Knuckle Pads	Dermatology Online Journal, 2013	Hyman A., Cohen C., Philip R.
Characterization of Knuckle (Garrod) Pads Using Optical Coherence Tomography In Vivo	Cutis 2015	Luber A., Bienenfeld A., Clark C., Markowitz O.
Imaging Features of Knuckle Pads	Journal of the Belgian Society of Radiology 2016	De Keersmaeker A., Vanhoenacker F.
Acrokeratoelastoidosis and Knuckle Pads Coexisting in a Child	Cutis 2018	Barrick C., Moran J., Oram C, Purcell S.
A novel treatment for idiopathic knuckle pads with cantharidin-podophylotoxin-salicylic acid	Pediatric Dermatology 2019	Hasbún C., Sandoval M., Maximiliano C.

Victoria and Giuliano de Medici[1,3,4] These lesions were previously known as articularw tylosis, helodermas, benign fibromas, supracapitular keratosis, pulvinus or subcutaneous fibromas.[2,5] They are asymptomatic, soft keratotic lesions measuring between 0.5 to 1.5 cm in diameter.[6-8] Garrod nodules occurr more commonly in distal interphalangeal joints than in metacarpophalangeal joints, rarely appearing at the knees or feet.[9]

The condition affects both males and females, with occupation being a contributing factor.[4] It usually manifests in patients aged thirty and fifty. Nonetheless, pediatric cases have been reported.[2,9]

Knuckle pads are mostly observed as hereditary or acquired, and solitary or multiple. In some cases, their origin is idiopathic or may be associated to diseases, such as fibromatosis (with minor occurrence), palmoplantar keratoderma, pseudoxanthoma elasticum, among others.[7,10] There are two knuckle pad family case reports related to sensorineural hearing loss and leukonychia, widely known as Bart-Pumphrey syndrome (of autosomal dominant inheritance due to gen GJB2 mutation).[7,11-13] Ritter et al. define a knuckle pad case associated with leukoplakia and esophageal cancer.[5]

Since there is limited recognition of such lesions, only a few cases have been reported in the medical literature. Some of them have been gathered in the following revision. (Table 1).[3,6,8-10,14-22]

Diagnosis is based on the clinical morphology of the lesions.[6] Complementary studies are required if the condition is related to other diseases and affected family members. Accordingly, skin biopsy, performed when necessary, reveals acanthosis, hyperkeratosis, parakeratosis, capillary fibroblast proliferation and a group of thick irregular collagen bands.[2,19,21] In the case of trauma-related knuckle pads, there are depressed areas and superficial loss of epidermis.[23]

Ecography showed an hypoechoic structure on the tendons and thickening of the skin, which differentiates knuckle pads from other pathologies.[2]

Radiography solely revealed an augmentation of soft tissue, without erosions or alteration of the joint space.[1]

Differential diagnosis included gouty tophi, which are yellow painful nodules in distal interphalangeal joints; rheumatoid nodules, mobile and asymptomatic; Gottron papules, violaceous plaques at the extensor surface of distal interphalangeal joints;[2] and other lesions, such as scars, warts, fibromas, foreign body granulomas and xanthomas.[10]

Considering nodules are asymptomatic, treatment is not usually required. If the lesions are caused by repetitive trauma, the patient is asked to quit the contributing habit.[24] In certain cases, to reduce the size of the lesion, topical corticosteroids and keratolytics, such as salicylic acid, urea and 5-fluorouracil, are applied.[1,20,23] Herold and cols. suggest the use of a long pulse erbium YAG laser in patients at high risk of recurrence, recognizing the risk of keloids and tendon anchorage after several surgical resections of the lesion.[21]

Hasbon and cols. describe a case with proper cosmetic results, in which 1 % cantharidin, 5% podophyllotoxin and 30% salicylic acid were combined.[17]

Surgical treatment of idiopathic knuckle pads is not recommended due to the lesions' high risk of recurrence and scar formation.[16]

This case presents trauma-induced clinical lesions, which, in contrast to primary lesions, did not require complementary studies.

CONCLUSION

Knuckle pads or Garrod nodules represent a relatively unknown pathology in the dermatological medical literature. Correct diagnosis, apart from the acknowledgment of their traumatic origin, rules out a possible association to other diseases.

Proper clinical assessment and examination allows physicians to rule out possible diagnoses, such as diseases related to fibromatosis, rheumatoid nodules, Gottron papules or foreign body granulomas. Regarding trauma-induced knuckle pads, it is essential for patients to quit any habits contributing to the condition or be referred to a psychologist for assistance.

It is crucial to consider minimally invasive treatments without collateral effects to avoid recurrence.

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