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### Authors

Sturm, B  
Blaise, B  
Wilson, M  
et al.

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# Pseudorheumatoid nodule: a variant of granuloma annulare?

B Sturm BS, B Blaise MD, M Wilson DVM MD, SP Stone MD

Affiliations: Southern Illinois University School of Medicine, Springfield, Illinois, USA

Corresponding Author: Stephen P. Stone MD, 751 North Rutledge Street, Suite 2300, Springfield, IL 62702, Tel: 217-545-8000, Tel: [sstone@siumed.edu](mailto:sstone@siumed.edu)

## Abstract

We present an adult woman with subcutaneous nodules without any signs or symptoms of rheumatoid arthritis. These nodules are believed to be pseudorheumatoid nodules, which are considered a deep form of granuloma annulare. This case is unique because these are typically found in children and have rarely been reported in adults. These nodules are typically asymptomatic and do not require treatment. However, attempts have been made to treat them with intralesional corticosteroids, cryotherapy, or excision. Owing to the fact that this is considered a deep form of granuloma annulare, they are sometimes treated similarly with a combination of monthly rifampin, ofloxacin, and minocycline.

*Keywords: pseudorheumatoid nodules, granuloma annulare*

## Introduction

Pseudorheumatoid nodules form in the subcutaneous tissue, similar to rheumatoid nodules,

but occur in the absence of signs or symptoms of rheumatoid arthritis [1]. These nodules are considered to be a deep form of granuloma annulare and are most commonly seen in children [1-3]. The etiology and treatment are not well defined and there is little published in the dermatologic literature.

## Case Synopsis

A 32-year-old woman presented with a greater than 10-year history of subcutaneous nodules on her right palm, right elbow, right lower eyelid, and multiple fingers. She was referred to our clinic after a lesion on her right dorsal index finger was biopsied. Pathology showed superficial and deep dermal histiocytic and lymphocytic inflammation associated with foci of fibrinoid dermal necrobiosis and palisading histiocytes. Further work up by a rheumatologist had revealed negative rheumatoid factor, negative anti-nuclear antibodies, and negative urine histoplasmosis antigen and serologies. Physical examination revealed numerous subcutaneous papules, 2-4mm in size, along the lateral edge of

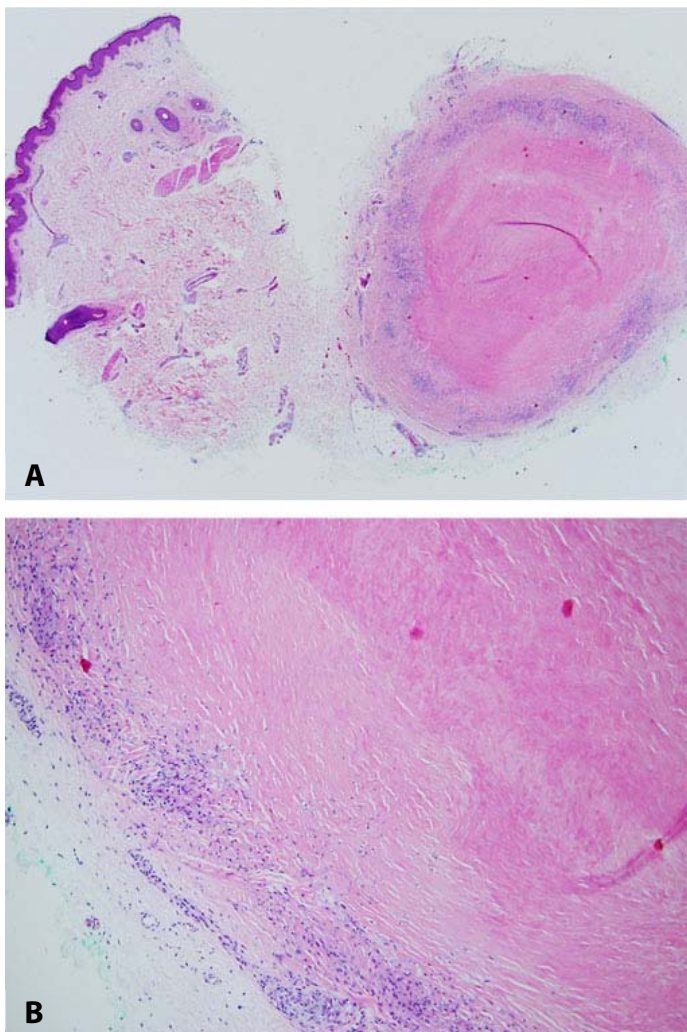


**Figure 1.** Subcutaneous nodules 2-4mm in size over **A)** right index finger, **B)** right elbow; **C)** right palm.

several digits on her right hand, right palm, right elbow, left wrist, and left first digit (**Figure 1**).

Biopsy of the right elbow lesion demonstrated a well-circumscribed subcutaneous nodule containing a palisade of histiocytes surrounding a central region of eosinophilic fibrous material, suggestive of altered collagen (**Figure 2**). Further analysis revealed a small amount of interspersed mucin in this area and special stains were negative for fungal or mycobacterial organisms.

The patient started treatment for granuloma annulare consisting of rifampin 600mg, minocycline 100mg, and ofloxacin 400mg monthly for six months [4]. At her three-month follow up, the nodules were still present, asymptomatic, and similar in size.



**Figure 2.** Palisaded granuloma with central hypocellular eosinophilic material. H&E, **A)** 20 $\times$ , **B)** 100 $\times$ .

## Case Discussion

Pseudorheumatoid nodules are most commonly reported in children and are typically seen on the anterior tibia, scalp, or feet [1-3, 5]. Less commonly these nodules are seen in young women and mainly involve the interphalangeal and elbow joints, as was seen with our patient [1]. However, there have been some reports of episcleral and orbital nodules that are histologically similar to pseudorheumatoid nodules [2]. The cause is not clearly understood, although some studies have reported a possible link to recurrent minor trauma [1]. Histologically, pseudorheumatoid nodules are described as having areas of necrobiotic collagen similar to rheumatoid nodules, but may also show increased mucin, as is more commonly observed in granuloma annulare [1, 3, 4, 6, 7].

Treatment for pseudorheumatoid nodules is not well established; if not bothersome, treatment is not mandatory. Reported treatments have included cryotherapy, excision, and intralesional corticosteroids [1]. Intralesional corticosteroids were the most effective treatment with the lowest rate of recurrence. However, this treatment did not prevent new lesions from developing. A combination of monthly rifampin, ofloxacin, and minocycline has been shown to be effective in treatment of generalized granuloma annulare [4]. Our patient is currently undergoing treatment with this regimen, with no signs of improvement after three months.

## Conclusion

Pseudorheumatoid nodules appear to represent a form of deep granuloma annulare with a clinical presentation mimicking rheumatoid nodules, but without symptoms of rheumatoid arthritis. They are rarely seen in adults and there are no known precipitating factors. We present an unusual case of numerous pseudorheumatoid nodules presenting in an adult woman on her extremities and infraorbital skin.

## Potential conflicts of interest

The authors declare no conflicts of interests.

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