

Pyogenic Granuloma(PG) with Satellitoses, A Usual Condition with Very Unusual Presentation – A Rare Case Report



Medical Science

KEYWORDS : Pyogenic granuloma, epithelioid hemangioma, satellitoses

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ABSTRACT

Pyogenic granuloma(PG), a very common vascular proliferation, usually presents as a solitary sessile or pedunculated lesion with a fragile surface prone to bleeding and ulceration. Local recurrences occur but multiple satellite lesions after excision is very rare. We describe a case of PG with satellitoses in an 18 year old male patient following an insect bite who presented with a small erythematous nodule in the interscapular region. A 4 mm punch biopsy was initially reported as epithelioid hemangioma. The patient later presented with multiple satellite erythematous nodules around the initial nodule which were easily bleeding with minor injury. A second biopsy revealed features of PG. Warthin-Starry stain is negative for bacterial organisms. Patient is HIV nonreactive. The case was diagnosed as PG with satellitoses and the patient underwent excision of the lesion with skin grafting. The patient was followed for 3 years without any recurrence.

Introduction :

Pyogenic granuloma(PG) is a common vascular proliferative lesion affecting skin or mucosa^[1]. Possible predisposing factors for PG's are trauma, chronic irritation, infections, viral oncogenes, and microscopic arteriovenous anastomosis^[2]. Local recurrences can occur but occurrence of multiple satellite lesions around primary lesion is a very unusual finding. It has also been observed after irritation of primary lesion^[3,4]. In one case Bartonella henselae was identified in a HIV case^[1]. In the present article we report a rare case of PG with satellitoses in an 18 year old male which was a diagnostic enigma and we discuss differential diagnosis.

Case report: An 18 year old male attended dermatology OPD with a complaint of painful nodule in interscapular area which was easily bleeding with minor trauma. He gave history of sleeping outside the house and felt some insect bite. Two days later he developed a nodule at the site of insect bite. On examination there was an erythematous nodule of 1x1cm which was easily bleeding. A 4mm punch biopsy was done which showed normal epidermis, a few congested vessels, neutrophils and mononuclear cells. Deep in the dermis there are capillaries lined by prominent plump endothelial cells. A probable diagnosis of epithelioid hemangioma was suggested and advised clinical correlation. The patient returned after 2 months with multiple erythematous satellite nodules in interscapular area surrounding the original lesion (Figure - 1: Pyogenic granuloma with satellitoses: Satellite lesions were seen around a primary lesion which was excised earlier. These lesions were seen as erythematous nodules and papules with surface ulceration in some of them). One such nodule was excised and was sent for histopathology.

Grossly 1.5x1cm skin covered nodule was received. Histopathology revealed typical epidermal collarette with adjacent ulceration and granulation tissue (Figure - 2: shows an elevated nodule with surface ulceration, granulation tissue with congested capillaries and neutrophilic collections. There is typical epidermal collarette with lobules of capillaries above, hematoxylin & eosin, 10x). Deeper areas showed edematous myxoid areas and extensive proliferation of blood vessels. (Figure - 3: shows lobules of capillaries in deep dermis. These capillaries are lined by plump endothelial cells, hematoxylin & eosin, 10x). The endothelial cells are plumpy. (Figure - 4: shows

capillaries in the lobules lined by plump endothelial cells. Focal neutrophilic aggregates can be seen in stroma in the center, hematoxylin & eosin, 40x). There were also proliferated plumpy fibroblasts. No significant cellular atypia seen. Careful evaluation was done as the proliferated endothelial cells were to be differentiated from a neoplastic process. A reticulin stain was done to delineate the blood vessels. Warthin-starry stain was negative for bacillary organisms. Patient was non-reactive for HIV. Basing on histopathological findings we diagnosed the lesion as PG and with clinico-pathological correlation a diagnosis of PG with satellitoses was concluded. The surgeons excised the whole lesion and skin transplantation was done which healed well. Patient was on follow-up for three years without any recurrence.

Discussion: PG is otherwise known as acquired lobular capillary hemangioma^[1]. It usually presents as a solitary sessile or pedunculated lesion with a fragile surface prone to bleeding and ulceration. Local recurrences can occur but occurrence of multiple satellite lesions after excision or other modalities of treatment is very rare. PG's are mainly found in males under the age of 25 years, common sites being hands, face, nasal mucosa, gums, and lips^[2]. Whereas the main site of multiple recurrent lesions is the trunk, particularly the interscapular region^[3,5,6]. The satellite lesions tend to be asymptomatic, bright red, sessile papules of 1 to 10 mm diameter with the surface intact. Possible predisposing factors for PG's are trauma, chronic irritation, infections, viral oncogenes, and microscopic arteriovenous anastomosis^[2]. The pathogenesis of satellite metastasis is not well known. It has been suggested that after either surgical excision or treatment of the primary lesion angiogenic factors may promote the appearance of new lesions^[7]. It has also been observed following irritation of the primary lesion^[3,4].

In one case Bartonella henselae was identified in lesions of an immunocompetent man, leading the authors of that case report to suggest that recurrent PG might be a localized variant of bacillary angiomatosis^[1], although this hypothesis has not been confirmed in subsequent case reports. Histological findings in recurrent PG are identical to those of any other variant of PG, with the exception that smaller recurrent lesions are very similar to capillary hemangiomas^[5].

Differential diagnosis of PG are kaposi's sarcoma, angiosar-

coma, bacillary angiomatosis, vascular granulomatous lesion as a complication of retinoid therapy and tufted angioma (angioblastoma). Kaposi's sarcoma and angiosarcoma should be considered in the differential diagnosis of PG, especially when multiple lesions are present. In Kaposi's sarcoma elevated poly-poidal lesion are rare, and show obvious spindle cells woven between delicate vascular spaces which are not seen in PG. Angiosarcoma characterizes greater degree of cellular atypia with intraluminal spreading of malignant cells. Focal areas of intravascular papillary endothelial hyperplasia within a PG can simulate angiosarcoma but the nuclear atypia is slight. Further differential diagnosis of PG's with bacillary angiomatosis, which is an infectious vascular proliferation common in HIV infected patients, caused by *Rochalimaea henselae*, a small gram-negative rod belonging to family bartonellaceae^[8]. Histologically the lesions of bacillary angiomatosis look very similar to PG, but a lobular architecture is not apparent in bacillary angiomatosis, and the endothelial cells have abundant pale cytoplasm and aggregates of neutrophils are present throughout the lesion along with clumps of granular basophilic material, which show bacilli when stained with Warthin-starry or Geimsa stain. Occasionally vascular granulomatous lesions mimicking PG may arise as a complication of retinoid therapy, but the histology is that of non-specific vascular granulation tissue lacking lobular architecture^[9,10].

PG with satellitoses appear in young people and are mainly located on the trunk and limbs around the scar resulting either from excision biopsy or from treatment of the primary lesion. Histopathology is necessary to confirm the diagnosis. It is important to identify PG with satellitoses because appearance satellite lesions is a very unusual finding and can cause a great concern for physicians who are not familiar with this condition.

REFERENCE

1. Itin PH, Fluckiger R, Zbinden R, Frei R. Recurrent pyogenic granuloma with satellitosis. A localized variant of bacillary angiomatosis? *Dermatology* 1994;189:409-12. |
2. Lin RL, Janniger CK. Pyogenic granuloma. *Cutis*. 2004;74:229-33. |
3. Zaynoun ST, Juljulian HH, Kurban AK. Pyogenic granuloma with multiple satellites. *Arch Dermatol*. 1974;109: 689-919. |
4. Blickenstaff RD, Roenigk RK, Peters MS, Goellner JR. Recurrent pyogenic granuloma with satellitosis. *J Am Acad Dermatol*. 1989;21:1241-4. |
5. Warner J, Jones EW. Pyogenic granuloma recurring with multiple satellites. A report of 11 cases. *Br J Dermatol*. 1968;80:218-27. |
6. Sàbat M, Luelmo J, Sáez A. Granuloma piogénico recurrente con satellitosis. *Actas Dermosifiliogr*. 2004;95: 196-8. |
7. Echenique M, Tumeu A, Zubizarreta J, Lobo C. Granuloma piogénico recidivante de lesiones múltiples. *Actas Dermosifiliogr*. 2004;95:651. |
8. Cockerell C J. Bacillary angiomatosis and related disease caused by *rochalimaea*. *J Am Acad Dermatol* 1995; 32: 783. |
9. Exner JH, Dahod S. Pochi PE. Pyogenic granuloma - like acne lesions during isotretinoin therapy. *Arch Dermatol* 1983; 119:808. |
10. Valentic JP, Barr RJ, Weinstein GD. Inflammatory neovascular nodules associated with oral isotretinoin treatment of severe acne. *Arch Dermatol* 1983; 119: 871. |