

Pyogenic Granuloma(Granuloma Pyogenicum) with Multiple Satellites

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Granuloma pyogenicum is a benign vascular tumor and usually occurs as a single lesion. But in a few instances, the development of multiple satellite lesions has been observed following excision or irritation of the primary lesion. Multiple satellite granuloma pyogenicum is a very rare variant of granuloma pyogenicum and occurs most commonly on the back, chest, or trunk, particularly in the interscapular region during childhood.

We report a case of multiple granuloma pyogenicum which occurred on the unusual site of the scalp in a 70-year-old woman. The patient presented with a reddish pedunculated nodule with multiple satellite lesions on the right temporal area. The histopathologic findings of the primary and satellite lesions showed many newly formed capillaries and characteristic epidermal collarettes. The lesions were treated by surgical excision and electrodesiccation.

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Key Words : Granuloma pyogenicum, Multiple satellites, Scalp.

Granuloma pyogenicum(GP) is a benign vascular tumor occurring on the skin and mucosal surfaces. It usually occurs as a single lesion but one of its uncommon complication is the development¹ of multiple satellite lesions following excision or irritation of the primary lesion. The satellite lesions occur most commonly on the back, chest, or trunk, particularly the interscapular region and in most instances, have occurred during childhood. Since Reitmann¹ reported a case in 1908, about 30 cases of multiple GP have been reported in the literature.¹⁻¹¹

We report herein a case of GP with multiple satellites on the scalp, in an aged woman after irritation of the primary lesion.

REPORT OF A CASE

A 70-year-old woman presented with a reddish pedunculated nodule and multiple satellite lesions on her right temporal area(Fig.1). The primary lesion developed one year ago, and was frequently irritated by combing and scratching. Nine months later, a number of small satellite lesions appeared around the primary lesion. The histopathologic findings of the primary and satellite lesions showed many newly formed capillaries that had prominent endothelial cells and varying degrees of dilatation(Fig 2). The stroma was mildly edematous

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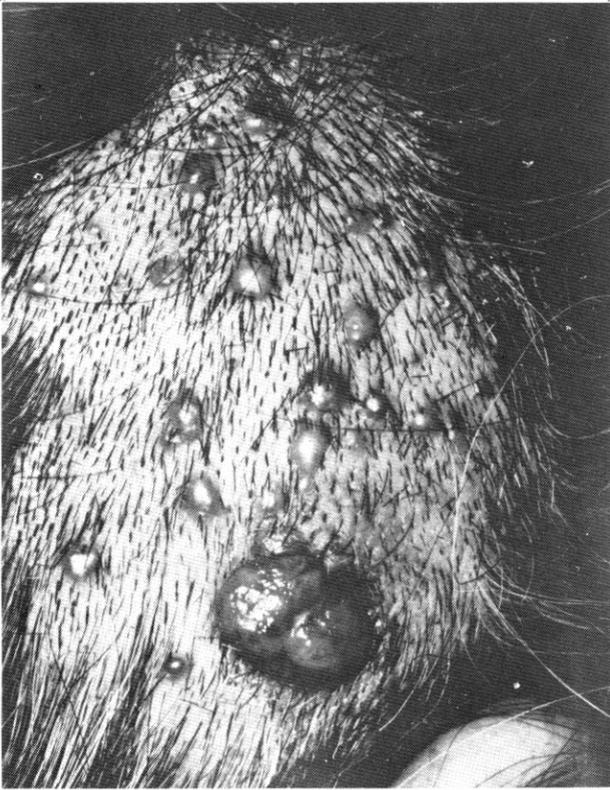


Fig. 1. A well defined reddish pedunculated nodule and multiple small reddish papules on the right temporal area.

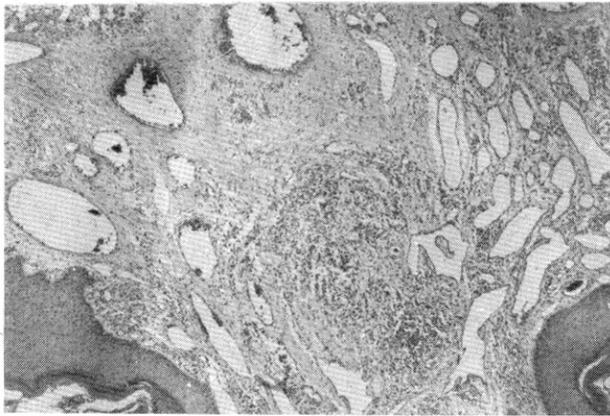


Fig. 2. Biopsy specimen from primary nodule shows considerable proliferation of endothelial cells and numerous capillary lumina in the edematous stroma(H & E stain, $\times 40$).

and minimal inflammation was seen. Characteristic epidermal collarette was found(Fig. 3). The lesions were treated by surgical excision

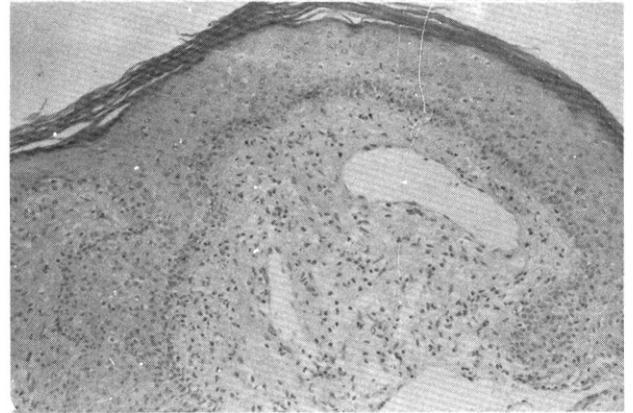


Fig. 3. Biopsy specimen from satellite lesion shows less prominent vascular lumina and more immature appearance than primary lesion(H & E stain, $\times 100$).



Fig. 4. Almost complete healing of the lesions after 4 weeks of surgical excision and electrodesiccation.

and electrodesiccation(Fig. 4).

DISCUSSION

Granuloma pyogenicum (GP) is a proliferating capillary hemangioma often arising at the site of trauma and representing a reactive proliferative vascular process. GP usually arises and remains as a solitary lesion but in a few instances the development of multiple small angiomatic satellite lesions has been observed following the removal or mechanical irritation of a primary GP. Since Reitmann,¹ in the earliest account we have traced, reported a case in 1908, about 30 cases of multiple GP have been reported in the literature.¹⁻¹¹ These may occur either with or without recurrence of the primary lesion. In review of the literatures, most reported cases occurred after ligation,^{1,6} cautery,^{2,6} curettage,^{3,6} excision,^{5,6,10,11} or vigorous scratching⁸ of the primary lesion. Occasionally, satellite lesions develop spontaneously or are multiple from onset.⁶ Males were affected more frequently than females. In the presented case, the satellites occurred after irritation of the primary lesion by combing and scratching. Although GP is a benign lesion, 16% have been noted to recur in one large series of GP treated conservatively.¹² GP occurs most commonly on exposed areas such as the fingers, the face, and scalp. The satellite lesions, however, occur most commonly on the back, chest, or trunk, particularly the interscapular region and usually appear within a few weeks to a few months after treatment of the primary lesions. Also, most instances of multiple satellites have occurred in children, even though GP in general has shown no special predilection for children.⁶ The presented case, a 70-year-old woman, may be the oldest of the reported cases. In contrast to the original tumors, the satellites are usually not pedunculated but rather are sessile and possess an intact surface epithelium. Thus, in these aspects, they may grossly resemble ordinary hemangiomas.¹³ The case reported here is unusual, in that the condition occurred in an old

aged woman, and on the scalp.

The cause and pathogenesis of GP and the satellite lesions are unknown, but the prevailing thought is that GP is due to either trauma or a vascular stimulating element in the particular patient.⁹ Zaynoun et al⁸ suggested that a combination of factors may be responsible for stimulating the growth of multiple pyogenic granulomas. One of these factors is that the removal of the surrounding skin leads to capillary growth proliferation. One offered hypothesis is that there are special individual areas, that when properly stimulated, can give rise to angiomatic lesions. The thought that the condition is primarily due to a vascular disturbance, particularly a reactive capillary hemangioma, is gaining more acceptance.^{14,15}

The satellite lesions usually have the same histologic appearance as the primary lesion of GP, although early satellite nodules may lack collarettes and extend to the lower dermis.^{16,17} Cooper et al⁸ suggested that the lobular pattern of capillary formation is an essential histologic criterion.

Management of GP and the satellites has ranged from excision and cautery to X-ray treatment, electrosurgical destruction, sulfa drugs and penicillin, cryosurgery, and laser treatment.^{9,12,19,20} When left untreated, the satellite lesions either involute or remain unchanged. In the presented case, the lesions were treated by surgical excision and electrodesiccation and no recurrence was noted to date.

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