

Case 1: A Man with Multiple Necrobiotic Granulomata

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CASE SUMMARY

History

A 29-year old salesman presented with a skin rash for 18 months. The rash started over the extensor aspect of arms, spreading to back gradually. It remained static in recent one year, and was painless but mildly itchy. He consulted a general practitioner with no response to topical treatment. The main concern to the patient was the cosmetic disfigurement; he did not dare to swim. His past health was good except that he had right pneumothorax at age of six. The family history was unremarkable. There was no similar skin problem or diabetes mellitus in other members of the family. The drug history was also unremarkable.

Physical examination

There was a symmetrical rash on the extensor surface of arms and back (Figure 1). The rash consisted of multiple firm papules, some arranged in an annular fashion.

Differential diagnoses

The differential diagnoses included disseminated granuloma annulare, amyloidosis and lymphomatoid papulosis.

Investigations

The complete blood count, renal and liver function tests, fasting lipid and sugar were normal. G6PD level was also normal.

Skin biopsy from the back showed unremarkable epidermis. The lower dermis was found to have a vague nodule composed of necrobiotic collagen and surrounded by a few lymphoid follicles and



Figure 1: Patient with necrobiotic granulomata on the back

inflammatory cells, mainly plasma cells, lymphocytes and histiocytes. The histology was compatible with necrobiotic granuloma. The histological differential diagnoses included necrobiosis lipoidica and granuloma annulare.

Progress

Dapsone 50 mg daily was started and it was stepped up to 150 mg daily gradually. The haemoglobin dropped from 14.2g/dl to 11.7g/dl. Dapsone was tried for three months without clinical improvement.

Discussion

Pathologists described the significance of plasma cells in the various skin diseases considered in this case. In Granuloma Annulare (G.A.), plasma cells were rarely found. In Necrobiotic lipoidica diabetorum (NLD), plasma cells could be found. In Necrobiotic xanthogranuloma, plasma cells were found together with the foamy cells, lymphocytes, and giants cells etc. On the whole the histopathology could only be concluded as necrobiotic granuloma, and they favoured NLD as the first differential.

Clinically the patient's skin lesion looked like those of multiple GA and NLD except in the latter, the distribution on the back was a bit unusual as NLD occurs in the anterior shin in 90% of the cases. Before contemplating any systemic treatment for this patient, an OGTT to exclude diabetic and a re-biopsy might add further clue to the diagnosis of this patient.

REVIEW ON TREATMENT OF DISSEMINATED GRANULOMA ANNULARE

Numerous therapeutic modalities have been tried with variable results. They include dapsone, retinoid, UVB, PUVA, pentoxifylline, systemic corticosteroids, antimalarials, oral potassium iodide and alkylating agents (melphalan, chlorambucil).

Dapsone was reported to be helpful in uncontrolled series. Czarmecki in 1986 reported 6

patients with generalized granuloma annulare¹. Their ages ranged from 11 to 76 and all of them were successfully treated with Dapsone.

The first reported case of successful treatment of disseminated granuloma annulare with isotretinoin appeared in the medical literature in 1985². Harth et al reported 4 patients with disseminated GA treated with etretinate as basic medication in 1993³. The dose of etretinate was 0.9 mg/kg/day. Two showed complete remission. One did not respond to etretinate but responded to Re-PUVA. One needed Re-PUVA followed by low dose etretinate. Hence, Harth proposed a 3-staged regime: first initiate monotherapy with etretinate and switch to a low-dose treatment over a longer period; if there is no response, give Re-PUVA; the third stage is to prevent relapse by etretinate.

Kerker et al reported 5 patients with generalised granuloma annulare of several years' duration who were treated with PUVA⁴. Flattening of lesions were noted as early as 1 month. Complete clearance were achieved in all cases. The mechanism remains unclear; it may be resulted from selective elimination of the cells that are responsible for initiating the disease.

Rubel et al in 1993 described a patient with generalised granuloma annulare which had been recalcitrant to many treatment regimes⁵. There was dramatic clearing after 4 week treatment of pentoxifylline. The mechanism of action was attributed to the reduction of blood viscosity. Pentoxifylline has also been reported to be useful in leukocytoclastic vasculitis, Raynaud's phenomenon and necrobiosis lipoidica diabetorum.

CONCLUSION

The course of granuloma annulare is unpredictable; generalised form tends to be more persistent. Skin lesions can disappear spontaneously. Without randomised placebo-controlled studies, the therapeutic efficacy of these agents remains unproven. Treatment should probably be limited to those lesions that are persistent or cosmetically disfiguring.

Learning points:

A clinico-pathological correlation is needed for definitive diagnosis when Necrobiotic Granuloma is encountered.

References

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