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THE ASSOCIATION OF THYMOMA AND SUPERFICIAL PEMPHIGUS IN AN OLD WOMAN

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ABSTRACT

The association of pemphigus and thymoma is real, although rare. We report a 73-year-old woman presenting with cutaneous bullae and erosions superimposed on erythematous and urticarial plaques, and a positive Nikolsky sign. She had a large mediastinal mass that proved to be a benign thymoma. Her skin biopsy and direct immunofluorescence test were suggestive of superficial pemphigus.

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INTRODUCTION

Pemphigus is a group of chronic autoimmune intra-epidermal blistering diseases involving the skin and mucous membranes. The association of pemphigus and thymoma has been known since 1964. We report an old woman with superficial pemphigus and benign thymoma showing erythematous, urticarial, blistering cutaneous lesions.

CASE REPORT

A 73-year-old woman from a rural area of western Iran was admitted in October 1997 in the dermatologic ward of Razi Hospital with a pruritic, bullous eruption. The disease started one month before her admission. On physical examination, more than 50 intact blisters with clear contents were seen on the trunk, lower extremities, and to a lesser extent, upper limbs. Some of the bullae were superimposed on erythematous, urticaria-like plaques. The Nikolsky sign was positive and numerous erosions and crusted lesions were noted. No mucosal involvement was seen. The patient was thin and the chest wall bulged on the left of the sternum. The patient was otherwise normal. The first skin biopsy revealed edema, spongiotic intra-epidermal vesicles containing neutrophils and numerous eosinophils, and a moderately dense perivascular mixed inflammatory infiltrate; it was not conclusive. In a second biopsy, intra-epidermal clefts with acantholysis was reported in the prickle cell and granular cell layers, suggestive of superficial pemphigus.

Direct immunofluorescence showed 3+ intercellular substance deposition of total Ig and IgG and a weakly positive (non-specific) IgM deposit in the BMZ. The pemphigus antibody was positive at a titer of 1:40.

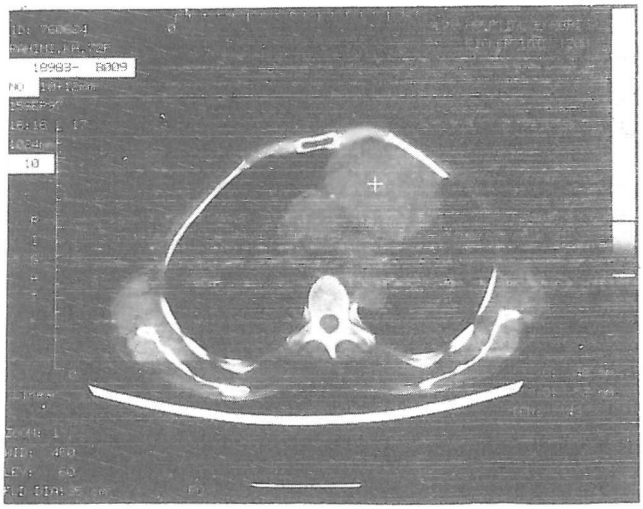

Fig. 1. Antero-posterior chest X-ray showing a large mediastinal mass.

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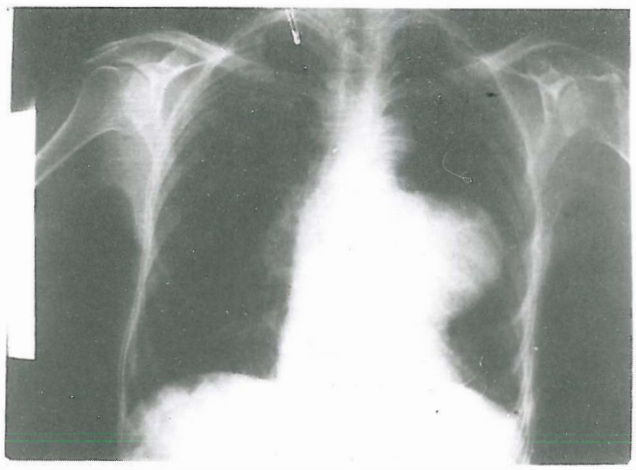

Fig. 2. Thoracic CT scan showing the anterior position of the tumor.

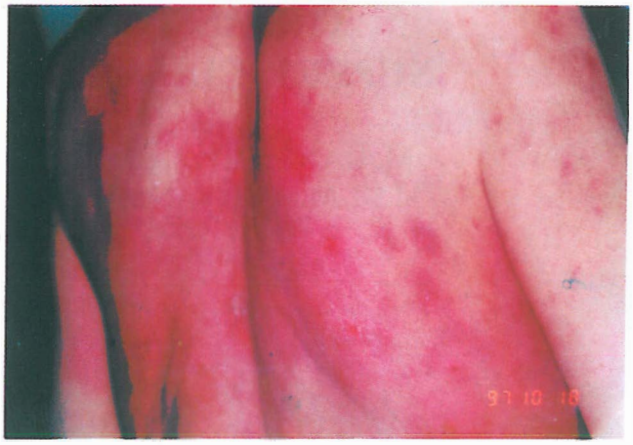

Fig. 3. Lesions on the back 10 days after treatment.

In the chest X-ray an 8 × 5 cm mass was reported in the left hemithorax (Fig. 1). The upper cardiac border was obliterated. The heart size was within normal limits with no pulmonary collapse or pleural reaction. A thoracic CT scan was performed (Fig. 2), in which a large tumor with soft tissue density in the vicinity of the aorta and mediastinal vessels was noted with secondary bulging of the left thorax. CT guided biopsy of the thoracic mass revealed a benign spindle cell tumor compatible with thymoma.

Treatment was started with prednisolone, 40 mg/day. The erythematous urticarial component disappeared, but new flaccid bullae continued to appear (Fig. 3). Ten days later, the dose of prednisolone was doubled and 100 mg/day azathioprine added to the regimen. The skin disease was controlled and prednisolone was gradually tapered. The patient refused any surgical intervention and was discharged with no skin lesion while taking prednisolone, 35 mg/day and azathioprine, 100 mg/day. She didn't return for follow-up.

DISCUSSION

Kough and Barnes reported the association of pemphigus and thymoma in 1964 for the first time.[1] Several new cases have been published since then and the coexistence of these two rare diseases is considered a real association.[1-11]

Histologically, the thymus is composed of two compartments: the ectodermally-derived epithelial cells and the Hassall's corpuscles which form the meshwork of the gland and resemble keratinocytes, and the lymphocytes which are also called thymocytes. Thymoma is derived from the epithelial component. The pathogenic model of the association of thymoma and pemphigus is theorized to rest on abnormal immunoregulation as a consequence of thymic pathology. Abnormal T-cell function leads to immune intolerance to the epithelial component of the thymus resulting in production of autoantibodies; the tolerogenic role of epithelial cells is lost and they become immunogenic. Cross-reactivity of these antibodies to normal skin could explain the association of thymoma with pemphigus. The same events concerning the myoid cells of the thymus and the striated muscles could relate thymoma to myasthenia gravis.[1,2]

Up to now, less than 30 cases of pemphigus associated with thymoma have been reported.[6,9] Males have outnumbered females by a ratio of 2:1. The mean age at the time of reporting was 51 years. Pemphigus erythematosus was most common, followed by pemphigus vulgaris, and benign thymoma represented the most common histologic finding involving the thymus.[1,4] Thymoma preceded pemphigus in the majority of cases. In two-thirds of cases, myasthenia gravis coexisted with pemphigus and thymoma.[5] The clinical course was variable, although the most common evolution was the initial development of myathenia gravis, followed by detection of the thymic pathology and finally the appearance of pemphigus.[4]

Interestingly, skin lesions have appeared in some cases even years after thymectomy.[5]

In a Chinese patient, skin lesions appeared first on the scars of the surgical incision and suture sites three months aftet thymectomy.[7] The majority of patients were treated by corticosteroids (topical or systemic) with or without immunosuppressive drugs.[5] The effect of thymic ablation on the course of the skin disease was variable, with no influence at all in the majority of cases. In addition to myasthenia gravis, other autoimmune diseases including erythroid aplasia, systemic lupus erythematosus[5] and lichen planus[6] are reported in association with pemphigus and thymoma.

Since the description of "paraneoplastic pemphigus" by Anhalt, some authors have suggested that some previous cases of pemphigus and thymoma could represent this entity, but with an overall benign course.[2,9,11]

In Iran, pemphigus is not as rare as in western countries; more than 70 new cases (proven histologically and by DIF) were admitted in 1998 to Razi Hospital, Tehran. But to our

knowledge, our patient is the first known case of pemphigus and thymoma in Iran demonstrating this rare but real association. The erythematous and urticarial lesions, as well as bullae and erosions, with no mucosal involvement, proved to be a superficial pemphigus only after biopsy. Unfortunately, the patient was not compliant and cooperative; she left the hospital with no further visit and we could not perform additional investigations such as IIF on rat bladder mucosa and follow the course of her disease.

REFERENCES

1. Souteyrand P, Berthier-Boachon M, Thivolet J: Association pemphigus and thymome: revue de la litterature et etiopathogenie. Ann Dermatol Venereol 108: 457-467, 1981.
2. Patten SF, Dijkstra JWE: Associations of pemphigus and autoimmune disease with malignancy or thymoma. Int J Dermatol 33: 836-842, 1994.
3. Kavli G: Pemphigus vulgaris and thymoma. A T-lymphocyte defect? Br J Dermatol 99: 97-98, 1978.
4. Cruz PD, Coldiron BM, Sontheimer RD: Concurrent features of cutaneous lupus erythematosus and pemphigus erythematosus following myasthenia gravis and thymoma. J Am Acad Dermatol 16: 472-80, 1987.
5. Ng PPL, Ng SK, Chng HH: Pemphigus foliaceus and oral lichen planus in a patient with systemic lupus erythematosus and thymoma. Clin Exp Dermatol 23: 181-4, 1998.
6. Younus J, Ahmed AR: The relationship of pemphigus to neoplasia. J Am Acad Dermatol 23: 498-502, 1990.
7. Fuxiang GU, Beutner EH: Pemphigus erythematosus associated with thymoma: a case report. Cutis 64: 179-182, 1999.
8. Ahmed AR, Graham J, Jordon RE, et al: Pemphigus: current concepts. Ann Intern Med 92: 396-405, 1980.
9. Stanley JR: Immuno-bullous disorders. In: Freedberg IM, Eisen AZ, Wolff K, et al. (eds.), Fitzpatrick's Dermatology in General Medicine. 5th ed, New York: McGraw Hill, p. 660, 1999.
10. Ascherman DP, Katz P: Systemic lupus erythematosus, pemphigus erythematosus, and thymoma in the same patient. J Clin Rheumatol 2-3: 152-155, 1996.
11. Chorzelski T, Hashimoto T, Korman NJ, et al: Atypical pemphigus associated with malignant thymoma and autoimmune response restricted to 170 KD antigen: is it a variant of paraneoplastic pemphigus? Eur J Dermatol 5/1: 31-35, 1995.