

# A Case of Thymoma with Multiple Autoimmune Presentations

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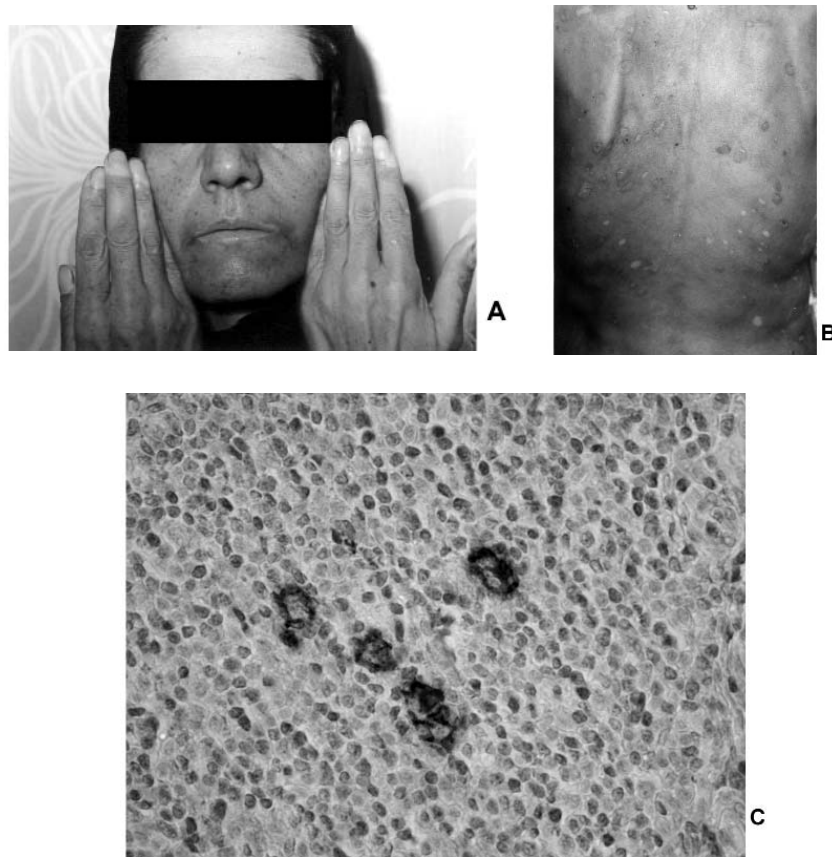
## CASE

A 40 year old female presented with a history of cough for 1.5 years and diarrhea for 5 days. She further had a history of pinkish discoloration of skin and red-crusted papules on the anterior and posterior parts of the trunk. Chest X-ray and chest CT-Scan revealed focal nodular densities in lung besides an anterior mediastinal mass. The mediastinal mass was surgically removed and the pathologic diagnosis was a lymphocytic type of thymoma (Fig. 1). Laboratory data showed low albumin (2.9 gr/dl), high alkaline phosphatase (1448 units/l), high SGOT and SGPT (107 units/l and 128 units/l, respectively) with total bilirubin of 1.38 (mg/dl), direct bilirubin of 0.52 (mg/dl) and  $\gamma$ Gt: 440 (Normal < 40). Other positive findings included ANA: 1/640 speckled pattern, low hemoglobin: 9.1 (g/dl), mild eosinophilia ( $595/\text{mm}^3$ ) and positive occult blood in stool, with normal WBC, BUN, Na, K, Ca, PO<sub>4</sub> and uric acid. Serum immunoelectrophoresis, abdominal sonography, fine needle aspiration of liver and endoscopic retrograde cholangiography were all normal. The report of skin biopsy indicated a lichen planus bolus type lesion. Colonoscopy detected points of inflammation with thick mucosa and biopsy was in favor of ulcerative colitis. Due to severe photophobia, she had previously consulted with an ophthalmologist revealing keratoconjunctivitis sicca due to dry eye. Four months later, she was expired due to severe pneumonia and sepsis.

## DISCUSSION

A functional immune system requires a diverse T cell repertoire to eliminate all the possible pathogens, inhibit self reactivity and deal with malignancies. The production of an immense T cell repertoire depends on the normal physiological function of the thymus. Thymus acts as a vital organ for the development and maturation of T cells by contributing to the process of positive and negative selections. The consequence of this selection process during intra-thymic events is the elimination or suppression of autoreactive T cells. Any abnormality in thymus defects this selection mechanism and allows the autoreactive T cells to escape negative selection, thereby leads to autoim-

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**Figure 1.** (A) Vitiligo lesions on the hands and face of the patient, (B) Lichen Planus lesions on the back of the patient, (C) Immunohistochemical staining for cytokeratine showing positive reaction in the cytoplasm of large neoplastic cells. The surrounding small cells are negative (250X)

mune diseases (1). Correspondingly, the association of thymoma with autoimmune disease is well established and its causal role in immune system is reported (2,3).

Thymomas and thymic carcinomas are unique tumors of the anterior mediastinum derived from thymic epithelial cells, frequently diagnosed in patients suffering from autoimmune disease (2-12). The neoplastic thymoma tissue can generate and export mature long lived T cells, which reflects the thymic pathology and may likely be associated with autoimmune disease (13). The question also arises in terms of improvement of autoimmune disease after thymectomy (14).

This is an interesting case because of the simultaneous presentation of a variety of immunological disorders including: thymoma, lichen planus, vitiligo, ulcerative colitis and keratoconjunctivitis sicca.

Myasthenia gravis is by far the most common disorder observed in approximately 30% of thymoma patients, followed by rheumatoid arthritis in 23%, pure red cell aplasia and hypogammaglobulinemia in 6% of the patients (15). Cutaneous disorders were found in about 20% of patients (cutaneous fungal disease, lichen planus, pemphigous vulgaris, myositis, and lupus-like disease) (16).

Lichen planus is a chronic inflammatory disease of the skin, rarely associated with a

thymoma and systemic diseases. Although its etiology is unknown, an autoimmune abnormality is considered to be a possible cause and with surgical treatment of the thymoma, the clinical manifestations can return to normal (17).

Ulcerative colitis is a nonspecific inflammatory disease though to be an immune-mediated disorder; however, the coincidence of thymoma with ulcerative colitis is rare (18).

In conclusion, the author postulates that the causal effect on the structural integrity of thymus gland has created circumstances allowing the residual and quiescent autoreactive T cells, within the gland, to find a chance to migrate. As a result of this event, the tissue specific autoreactive T cells may proceed to their specific targets and give rise to multiple autoimmune disorder.

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