# Nephrotic syndrome after thymectomy for myasthenia gravis

Sir,

A 28-year-old man was admitted for evaluation of anasarca. His past medical history revealed biopsy-proven benign thymoma and myasthenia gravis (MG). The edrophonium test and acetylcholine receptor antibodies were positive, and antibodies to muscle-specific receptor tyrosine kinase were negative. Repetitive nerve stimulation studies and single-fiber electromyography confirmed the diagnosis of myasthenia. Imaging of mediastinum showed thymic tumor. Blood tests for thyroid function, magnetic resonance imaging of brain, and ultrasound of orbits were normal. Thymectomy was performed in August 2011. Histopathologic examination was suggestive of thick fibrous bands separating lymphoid cell collection with some epithelial cell nest. Lymphoid tissue showed uniform lymphoid cells. The tumor was capsulated. No carcinoma cells were observed, favoring T1N0M0. So, no radiotherapy was given. At the time of surgery, renal function tests and urine examination were normal.

He was then discharged on oral methylprednisolone (MP), pyridostigmine, and azathioprine. He was relatively asymptomatic for about 7 months, until he was admitted with decreased urine output, generalized ansarca, nausea, and vomiting for 3 weeks. On admission, his BP was 130/80 mm of Hg with generalized anasarca, with no systemic examination abnormality.

Lab examination showed normal complete blood count, liver function test, and ultrasonography of abdomen. Renal function showed serum creatinine 3.2 mg/dL; blood urea 69 mg/dL; serum Na 133 meq/L; serum potassium 4.1 meq/L; serum calcium 7.2 mg/dL; serum phosphate 4.3 mg/dL; serum uric acid 6.8 mg/dL; serum albumin 2.0 g/dL; urine examination showed 3+ albumin. Tests for anti-nuclear antibody, anti-double-stranded deoxyribonucleic acid, anti-neutrophil cytoplasmic antibody, C-reactive protein, and complement components (C3 and C4) were normal. A search for the underlying systemic causes of renal failure yielded no results. Kidney biopsy revealed 23 glomeruli with surrounding tubules and vessels. All the glomeruli showed uniform mild mesangial prominence. Capillary lumina and Bowman's capsule were normal. Immunofluorescence suggested no immunologic involvement. Final report was mesangial proliferative glomerulonephritis with acute tubulo-interstitial nephritis [Figure 1]. Patient responded to IV MP (500 mg × 3 doses) and oral prednisolone, 1 mg/kg/day, followed by a progressive tapering of the dose.

Thymoma may be accompanied by paraneoplastic syndromes such as MG, pure red cell aplasia, systemic lupus erythematosus, hypogammaglobulinemia, and pemphigus vulgaris. Case reports of thymoma with nephrotic syndrome as a systemic manifestation are very rarely encountered.[1-7] We hereby report one such rare, interesting case of nephrotic syndrome presented 7 months after thymectomy for MG.

Only 40 such cases have been reported in literature so far, and to our knowledge, this is the first case report from India. Karras *et al.*[1] reported 21 patients of thymoma and renal involvement. The most common presentation was nephrotic syndrome with minimal change disease associated with high-grade malignant thymoma. Impaired cellular and humoral immunity was observed in patients

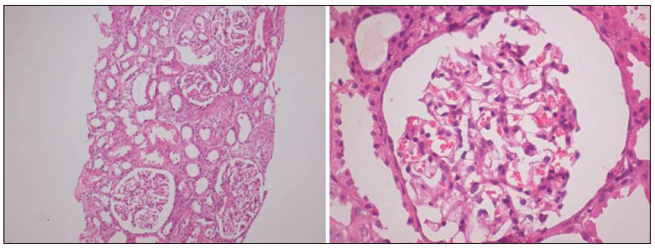

**Figure 1: Mesangial proliferative glomerulonephritis with acute tubulo-interstitial nephritis**

with thymoma and persisted after thymectomy. The nephrotic syndrome was attributed to T cell dysfunction associated with thymoma.[2,3] Yoshida *et al.* reported minimal change nephrotic syndrome 10 years after thymectomy for disseminated thymoma and radiotherapy in a 50-year-old man.[3]

It is interesting to note that nephrotic syndrome developed early after thymectomy (7 months), whereas most reported cases developed nephrotic syndrome after a median period of 100 months.

**V. B. Kute, P. R. Shah, J. D. Shrimali, M. R. Gumber, H. V. Patel, A. V. Vanikar[1], H. L. Trivedi**

Department of Nephrology and Clinical Transplantation, Institute of Kidney Diseases and Research Center, Dr. H. L. Trivedi Institute of Transplantation Sciences, [1]Departtment of Pathology, Laboratory Medicine, Transfusion Services and Immunohematology, IKDRC-ITS, Ahmedabad, India

**Address for correspondence:**
Dr. Vivek B. Kute,
Department of Nephrology and Clinical Transplantation, Institute of Kidney Diseases and Research Centre, Dr. H. L. Trivedi Institute of Transplantation Sciences (IKDRC-ITS), Civil Hospital Campus, Asarwa, Ahmedabad, Gujarat, India.
E-mail: drvivekkute@rediffmail.com

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