Myocarditis as an Initial Manifestation of Systemic Lupus Erythematous

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Abstract

We report a case of systemic lupus erythematosus (SLE) whose initial presentation was in the form of myocarditis. The patient did not have arthritis, fever or butterfly rash. Presence of LE cell phenomenon, positive ANA, anti-DS DNA antibodies, leucopenia and high ESR with polyserositis indicated the diagnosis to be SLE. Therapy with steroid resulted in complete recovery. The patient developed atrial fibrillation during her course of acute illness which is being reported for the first time.

Systemic lupus erythematosus (SLE) can have numerous cardiovascular manifestations. While myocarditis is present in more than 50% of patients at autopsy, it is usually clinically silent. We report a case who presented initially with myocarditis and a diagnosis of SLE could be made only by subsequent investigations.

Case Report

A 36 year old lady doctor was admitted with acute onset of shortness of breath of 2 days duration. There was no history of fever or arthralgia. On examination, the patient was found to be severely dyspnoeic and orthopnoeic. The pulse rate was 130/min, regular in rhythm and the BP was 100/65 mmHg. The apex beat was felt in the left 5th intercostal space, 4 cm. lateral to midclavicular line. First heart sound was soft, 2nd heart sound was normally split and there was prominent S3 gallop. No murmur was audible. There was no pericardial rub.

A provisional diagnosis of viral myocarditis was made and the patient was put on diuretics [furosemide (lasix) 20mg IV twice daily], ACE inhibitor (captopril given initially at the dose of 6.25mg twice daily, increased subsequently to 25mg twice daily) and low dose digitalis (0.125mg daily). Routine investigations showed haemoglobin to be 9gm%, TLC 3,800/mm3. The ESR was 80 mm in 1st hour. The chest X-ray revealed pulmonary venous hypertension, and a left sided pleural effusion. The ECG showed sinus tachycardia, low voltage and diffuse nonspecific ST-T changes. The echocardiography revealed diffuse hypokinesia of the LV with an ejection fraction of 35%. There was mild pericardial effusion. The other laboratory parameters were normal.

On the 3rd day of hospitalization, the patient developed atrial fibrillation with fast ventricular rate and haemodynamic compromise for which she was cardioverted with 150 Joules. In view of the high ESR, pleural and pericardial effusion and rapidly deteriorating clinical condition, the patient was screened for autoimmune disease. The LE cell phenomenon was positive. The patient had positive antinuclear antibodies (HEP2 method) in dilution 1:40 with homogenous ANA pattern and intensity on immunofluorescence was 4+. Anti-double stranded DNA antibody was found to be 24.7 IU/ml (ref. range 0.0-4.2) measured by FARR assay. Complement (C3,C4) levels were not estimated.

A provisional diagnosis of SLE with myocarditis was made. The patient was given methyl prednisolone. IV at a dose of 1 gm/day for 5 days and then switched over to oral prednisolone at a dose of 60mg per day. The patient started improving on the 2nd day of steroid therapy. Echocardiography done on the 10th day of illness showed EF to be 46%. The patient was discharged and advised to continue diuretics, ACE inhibitors and prednisolone and report for follow up. The dose of prednisolone was gradually tapered over 8 weeks. Six months after the initial illness, the patient is doing well. She is at present on low dose of prednisolone (5mg/day) daily.

Discussion

Primary myocardial involvement in SLE is uncommon. Borenstein et al found only five cases of myocarditis in 140 patients with SLE. Badui et al. have reported 14% incidence in a prospective study. Myocarditis as the initial manifestation of SLE is still rare. Cheng et al. reported one such case for the first time who presented with severe LV dysfunction without other manifestations of SLE such as arthralgia or vascular rash. Sandrasegaran et al reported a patient of SLE presenting with myocarditis who responded dramatically to steroid therapy. Pathogenesis of myocardial lesions is mediated by immune-complex deposition with...
complement activation. While conduction disturbances are common in patients with SLE, we could not find any documentation of atrial fibrillation in the literature. In our patient, there occurred atrial fibrillation with haemodynamic compromise which required cardioversion. Though myocarditis is an unusual initial presentation of SLE, its timely diagnosis can be life-saving as therapy with steroid results in dramatic recovery.

**References**


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**Obituary**

Dr. Krishan Dayal Gupta, MD (1922-2004)

Dr. KD Gupta, one of the most senior and distinguished physicians in Rajasthan passed away at the age of 82 after a brief illness.

Dr. Gupta was born on October 12, 1922 at Bikaner in Rajasthan. Dr. Gupta received his medical education at the King Edwards Medical College in Lahore. Immediately after becoming a physician, he joined the provincial medical services of the Bikaner State, where he quickly made a mark in the presence of outstanding physicians led by the venerable Prof. Weingarten, who was known for his academic interests and work in pulmonary eosinophilia. Dr. Gupta began his academic career in 1951 by joining as a Lecturer in the Department of Medicine at the newly established Sawai Man Singh Medical College, Jaipur, which was the first of medical colleges in the State, and was affiliated with the Rajasthan University. In 1956, Dr. Gupta was awarded a prestigious international award from the pharmaceutical company, Lederle Inc. This award permitted him to join as a Fellow in Allergy and Immunology, the Temple University School of Medicine in Philadelphia, United States, for two years. After Sawai Man Singh Hospital. Later, other institutions in the country adopted this model for treating patients with allergic disorders. Shortly afterwards, in 1962, he was appointed Professor and Head of the Department of Medicine at the Sardar Patel Medical College, Bikaner, where in 1971 he advanced to the positions of Principal of the College and Controller of the Associated Group of Hospitals. He served as the Dean of the Faculty of Medicine at the University of Rajasthan, as a visiting professor in leading institutions, including Postgraduate Institute of Medical Education and Research, Chandigarh, and as an external examiner in numerous medical schools in the country.

After retiring from Government service in 1977, he settled in Jaipur as a Consultant Physician and was appointed as an Emeritus Professor of Medicine by the Government of Rajasthan. Moreover, he served as the Chairman of the Rajasthan Red Cross, where he was instrumental in upgrading the organization to a higher level. He became a major force in the establishment of several private hospitals, the Mahatma Gandhi Institute of Medical Sciences, in the state. He remained busy until the very end with his clinical activities, including as the Chairman of the Swasthya Kalyan Blood Bank and as the Patron of the Mahatma Gandhi Institute of Medical Sciences and the Mahatma Gandhi Medical College and Hospital in Jaipur.

Dr. Gupta has been an active researcher and had over 200 publications in fields of allergy and immunology, liver disease, and cardiovascular pathophysiology in national and international journals. His passions for writing, editing and publishing continued until the end. Dr. Gupta’s wife and three children survive him. One of his sons, Dr. Rajeev Gupta, is popular physician in Jaipur and his other son, Dr. Sanjeev Gupta, is a senior Professor of Medicine and Pathology, with specialization as a Hepatologist at the renowned Albert Einstein College of Medicine, New York. His daughter, Mrs. Indu Agarwal, is active in nongovernmental organizations devoted to public service in Mumbai, India.

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