Concerns Regarding use of Immuno Suppressive Therapies without Prior Screening for Latent Tuberculosis in a Case of Systemic Lupus Erythematosus presenting with Sensorineural Deafness

Sir,
We read with great interest the report by Kundu et al.1 describing a young male with Systemic Lupus Erythematosus (SLE). He was suffering from progressive bilateral hearing impairment for the last three years and subsequently diagnosed to have SLE with cutaneous, musculoskeletal manifestations with biopsy documented Lupus Nephritis WHO Class V. This report highlights the fact that Auditory system involvement ought to be considered as one of the elements of the clinical picture of SLE. From our reading of their report, the patient tested Lupus anti coagulant anti cardioliopin antibody negative but there is no mention whether patient complained of vertigo, headache, tinnitus, hyperacusis, or ear fullness. All rheumatologists are no mention whether patient complained of vertigo, headache, tinnitus, hyperacusis, or ear fullness. All rheumatologists are now seeing many patients of anti-phospholipid syndrome (APS) and there are very few reports of hearing loss in APS. Hence, the causal role of APS and auditory system involvement in SLE is speculative.2 A recently published study carried out by Otolaryngology Colleagues3 compared 35 unselected consecutive patients of SLE with a control group of 30 otologically healthy persons matched to SLE group of age and sex. Case history was recorded for all patients from questionnaire data and laryngological examinations were performed, followed by pure-tone, speech and impedance audiometry and auditory brainstem response audiometry (ABR). It was found that SLE patients had a significantly poorer mean hearing thresholds than the control group for all frequencies, except for 500; 2000 and 4000 Hz. Longer ABR latency averages were observed in the group of SLE patients compared to control. Ten patients (28.6%) developed high frequency and symmetric sensorineural hearing loss (SNHL). Significant positive correlation between mean air-conduction hearing thresholds and SLE duration. After taking age into consideration, hearing acuity in SLE was related to duration of disease in younger patients. Furthermore, no relation was seen between hearing level and severity of disease as judged by kidney and CNS involvement. The main conclusion of this study was character of hearing loss in SLE whether due to immune mediated ear damage or ototoxicity of drugs used in SLE treatment requires further research.3

In their case, Kundu et al.1 have used an ototoxic aminoglycoside antibiotic to treat miliary TB and have argued that when irreversible auditory damage has settled in, the use of ototoxic drug hardly adds to it. However, our main concern is the use of immunosuppressive drugs to treat SLE without prior screening for latent TB infection (LTBI). The importance of this fact is not mentioned by Kundu et al in their case report considering that India is a high TB burden country.

It has been documented in the literature that SLE and TB have a complex interaction.4 Higher prevalence of tuberculous infections in SLE is attributed to multiple immune abnormalities that occur in these patients as well as to immunosuppressive therapy. High doses of corticosteroids are also a major risk factor. Also, uncontrolled hyperactivity of the immune system actually makes SLE patients an immunocompromised host. Resistance to Mycobacterium tuberculosis (MTB), which is mediated by cellular immunity, is deficient in SLE patients both due to the nature of the disease and the immunosuppressive therapy.4

Despite a high TB burden, there is no national guidelines for LTBI screening of patient with inflammatory rheumatic diseases. Previous reports suggest that the usual screening combination of TST and chest radiograph are not adequate for detecting asymptomatic TB in a population where TB is endemic or BCG vaccination is widely used. Interferon-gamma Release Assays (IGRAs) are one of the recent innovations for the identification of latent tuberculous infection. These are performed in two ways: Quantiferon Gold (QFT-2G) and TSPOT TB. These assays measure the release of interferon-gamma from sensitized T lymphocytes after stimulation with antigens from MTB. The advent of the T-cell interferon-gamma release assays, a more specific test than the tuberculin skin test, may improve the detection of latent TB.

An audit report from North India recommended four TB screening tests in India. These screening strategy included tuberculosis skin test (TST), Quantiferon-TB Gold test (QTG) standard chest radiographs and contrast enhanced computerized tomography of the chest (CT). TB could be excluded with high degree of certainty (NPV 0.97) by use of these 4 tests, vigilance may be advisable if only one test is positive.5

A report from Japan showed that the QFT-2G test may have more potential to assist in the diagnosis of active MTB infection and LTBI than TST in SLE patients, but this study was unable to evaluate about one-third of patients due to indeterminate test results. Indeterminate results were associated with lymphocytopenia as well as disease activity and SLE itself. Caution must be taken when interpreting the results of the QFT-2G test among SLE patients, especially those who have parallel or subsequent flares of the disease.6

Clearly more prospective studies are required comparing older and newer methods for detection of latent TB infection in immunoinflammatory rheumatic diseases including SLE.

References

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Hiatus Hernia Masquerading as Left Atrial Mass

Sir,

Hiatus hernia is characterized by the displacement of the gastroesophageal junction and part of the stomach into the mediastinum. Besides causing heartburn and regurgitation due to concomitant gastroesophageal reflux, it may present with a wide spectrum of manifestations mimicking acute cardiovascular events like postprandial syncope, angina-like chest pain, recurrent dyspnoea and acute heart failure due to hiatus hernia induced cardiac compression. Further hiatus hernia can result in ST-T changes in the electrocardiogram mimicking myocardial ischemia or may simulate the appearance of an intra-atrial mass on transthoracic echocardiography. We present an apparent left atrial mass on transthoracic echocardiography, which was subsequently diagnosed as hiatus hernia.

A 82-year-old man presented in the emergency department with complaints of sudden onset of chest pain radiating to the epigastrium associated with vomiting and cold sweats since 2 hours. He was nonhypertensive, nondiabetic with no significant past medical history. On examination his pulse was 70/minute regular, blood pressure 100/70 mmHg and respiratory rate 28/minute. Jugular venous pressure was not raised and cardiovascular examination revealed no additional abnormality. Routine laboratory investigations including blood biochemistry, liver and renal function test with serum cardiac markers were within normal limits. The chest x-ray showed cardiomegaly. The 12-lead electrocardiogram demonstrated normal sinus rhythm with no evidence of ischaemia. A two-dimensional transthoracic echocardiogram, revealed an amorphous, echolucent mass with the appearance of a left atrial space-occupying lesion (Figure 1). Left ventricular contraction was normal without asynergy. The patient subsequently underwent a chest computed tomography scan which confirmed the mass to be the stomach with presence of a large hiatus hernia in the posterior mediastinum (Figure 2). The patient was immediately referred to the gastroenterologist for further management.

Fig. 1: Transthoracic echocardiogram (apical 4 chamber view) with a left atrial space-occupying lesion

References

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Study of Prescribing Pattern of Antimicrobial Agents in Medicine Intensive Care Unit of Teaching Hospital in Central India

Sirs,

W e have gone through this interesting article, study of prescribing patterns of Antimicrobial Agents in Medicine Intensive Care Unit of a Teaching Hospital in Central India, JAPI 2012;60:20-23.1

We would like to express our views about the article.

Definitive bacteriological diagnosis is not available before initiating treatment. Bacteriological testing is time consuming, expensive and appropriate samples of infected material for bacteriology may not be obtainable. Clinical diagnosis itself directs choice of antimicrobial agents. The infecting organism and its sensitivity are not variable, e.g. syphilis, chancroid, diphtheria, tetanus, plague, cholera, trachoma, thrush, tuberculosis, lobar pneumonia, leprosy, amoebiasis, herpes simplex, etc. In many conditions like bronchopneumonia, empyema, meningitis, osteomyelitis etc no guess can be made about the infecting organism or its sensitivity, an antimicrobial agent, should be selected on the basis of culture and sensitivity testing, but this may not be always possible.2

There is narrow range between rational and irrational use of antibiotics, which is variable and it depends upon clinical experience of treating physician and many a times we have to give doubt of benefit to save the life of patient even if it may be irrational.

References


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Reply from Author

Sir

We, agree that definitive bacteriological diagnosis is many times not available and hence, it is necessary to start antimicrobial therapy empirically on clinical diagnosis.

Considering these factors, we also agree that percentage of irrational use of antimicrobial agents (58%) quoted in this study is not correct and has been incorrectly overestimated and it may not depict actual rational use of antimicrobial agents in medicine ICU of Teaching Hospital in Central India.
Various adjacent extracardiac structures may closely mimic intracardiac masses on a two dimensional echocardiogram and these include descending thoracic aortic aneurysms, mediastinal spread of bronchogenic carcinoma and even oesophageal carcinoma. In 1985 Nishimura et al were the first to describe five cases of a previously unrecognized diaphragmatic hernia mimicking intraatrial masses. Several features may help to distinguish between a hiatus hernia and an atrial mass on two-dimensional echocardiography. The echo density of a hiatal hernia will extend beyond the margins of the atria. With angulation of the transducer the mass will not be confined to one atrium because hernia is a posterior structure separate from the heart. Besides this respiratory fluctuation in the degree of encroachment of the mass on the left atrium due to motion of the hiatal hernia along with the diaphragm during the respiratory cycle helps in identification. Further the visualization of swirling echodensities following oral ingestion of carbonated beverage particularly in combination with echocardiographic contrast media further enhances the differential diagnosis. These techniques were regrettably not employed in the present case, inevitably at the expense of the cost-effectiveness of the diagnostic approach, radiation exposure and patient inconvenience.

So, hiatus hernia can present as acute chest pain, while its echocardiographic manifestation may resemble a left atrial space occupying structure. Physicians should be aware of the clinical and sonographic findings to facilitate the differential diagnosis from similarly presenting cardiac entities.

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