

**Background and aims** Long term complications and mortality of Systemic Lupus Erythematosus (SLE) associated with vascular disease and atherosclerosis. Atherosclerosis is clinically preceded by changes in the walls of arteries, known as Intima Media Thickness (IMT) and plaque formation. IMT can be measured by B-mode ultrasonography of the carotid arteries. Atherosclerosis is an inflammatory process that was affected by inflammatory cytokines including TNF  $\alpha$ . The role of TNF- $\alpha$  is important in SLE disease, so it is important looking for correlation between plasma level of TNF  $\alpha$  with carotid artery IMT from SLE patient.

**Objective** To determine the correlation between plasma level of TNF- $\alpha$  with carotid artery IMT from SLE patient.

**Methods** Cross Sectional Study, the subjects of this study was 32 people, consisting of woman aged  $\geq 18$  years. Statistical test using unpaired t-test and Spearman rank correlation test.

**Results** From 32 subjects there were 20 subject (62,50%) have a carotid artery IMT. There were no significant differences in plasma levels of TNF- $\alpha$  to carotid artery IMT (  $p=0.405$ , 95% CI  $-2.34$  until  $5.64$ ), no significant correlation between plasma levels of TNF- $\alpha$  with carotid artery IMT (  $p=0.075$ ;  $r=-0.319$ ) in SLE patient. We compare subject with carotid artery IMT which have high and low plasma levels of TNF  $\alpha$  is same (31,25% vs 31,25%)

**Conclusions** There were no significant differences and no significant correlation between plasma levels of TNF  $\alpha$  with carotid artery IMT in SLE patient

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#### EARLY RESULTS OF PATIENTS WITH ANTIPHOSPHOLIPID SYNDROME AND SYSTEMIC LUPUS ERYTHEMATOSUS FOLLOWING PULMONARY ENDARTERECTOMY

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**Background and aims** Pulmonary hypertension is one of the most debilitating and fatal complications of systemic lupus erythematosus (SLE) and antiphospholipid syndrome (APS). These patients are prone to chronic thromboembolic pulmonary hypertension (CTEPH), for which the treatment of choice is pulmonary endarterectomy (PEA). It is a complex surgical procedure with removal of obstructive thromboembolic material from the pulmonary arteries in order to reduce pulmonary vascular resistance, relieve pulmonary hypertension (PH) and alleviate right ventricular dysfunction. Hereby, we share our clinical experience of PEA for CTEPH in SLE and APS patients.

**Methods** Data were collected prospectively for consecutive patients with APS and SLE who underwent PEA over a 5 year period [2011–2016]. Case selection was made by consensus of a team consist of a cardiologist, pulmonologist, rheumatologist and thoracic surgeon. All the operations were performed by the same surgical team.

**Results** We identified 22 patients (5 male, 17 female) with APS and SLE. Mean age was 35 (range=7 to 57). Median NYHA score was III (II to IV). Mean pulmonary artery pressure (mPAP) of the patients fell immediately from  $77.4 \pm 30.8$  mmHg to  $28.8 \pm 8.9$  mmHg right after surgery, and

$31.2 \pm 7.5$  mmHg on discharge. One (5.9%) patient developed acute respiratory distress syndrome and died on postoperative day 10. Mean follow-up duration was 31 months, with no additional mortality.

**Conclusions** Patients with SLE and/or APS should be screened for CTEPH, since they are more susceptible to intravascular thrombosis. PEA is the treatment of choice for CTEPH patients, with its low morbidity and high success rates.

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#### CLINICAL EVALUATION OF SYSTEMIC LUPUS ERYTHEMATOSUS PATIENTS FOR SKIN LESIONS-REPORT FROM A DEVELOPING COUNTRY

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**Background and aims** SLE patients often suffer from both specific, non specific skin lesions and infections. This study was aimed to observe frequency of lupus specific and non-specific skin lesions, skin infections and factors related to infections.

**Methods** This observational study was conducted in SLE clinic of BSMMU, Bangladesh. A total 148 patients were enrolled and followed for 1 year. Patients were evaluated at baseline, special and final visits. Clinical definitions and dermatologist opinion were used for diagnosis of skin lesions. Patient's demographics, SLE lesions, infection as well as relevant laboratory tests were recorded. Multivariate analysis was done for risk factors. Ethical clearance was obtained from IRB of BSMMU.

**Results** A total 131 patients (126 women and 5 men) completed the study period; their mean age was  $28.75 \pm 8.17$  years. Frequency of skin lesions and infections were 71.76% (94) and 26.7% (35) respectively. Specific lupus lesions were malar rash 75.44% followed by DLE, 15.78%. Photosensitivity (72.6%), non-scarring alopecia (67.9%), mucosal ulcer (47.6%), raynaud's phenomenon (23.8%) and hyper-pigmentation (23.8%) were notable non-specific skin lesions. Common skin infections were tineasis (42.85%), herpes infections (34.26%), paronychia (20%) and scabies (17%). High SLEDAI score, low complements, prednisolone ( $>10$  mg/day) and use of immunosuppressive agents at present or in past were found risk factors for skin infections.

**Conclusions** Skin infections were high in this study. Tineasis, herpes infections, paronychia and scabies were common. Active disease, use of prednisolone  $>10$  mg/day and immunosuppressive therapy were observed risk factors. Vaccinations and judicious use of drugs might reduce the rate of skin infection.

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#### AUTOANTIBODIES IN SLE WITH PULMONARY HYPERTENSION PROMOTE A MIGRATION OF PULMONARY ARTERY SMOOTH MUSCLE CELLS

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**Background and aims** The process of pulmonary vascular remodelling in pulmonary arterial hypertension (PAH) in

systemic lupus erythematosus (SLE) largely depends on migration of pulmonary artery smooth muscle cells (PASMCs). In this study, we tested whether IgG from SLE with PAH have stimulatory effects on PASMC migration.

**Methods** Sera from 6 SLE patients, including 1 with PAH, and 7 healthy subjects were collected, and IgG was purified using protein A or protein G. PASMC migration was examined by a Boyden chamber method. Lamellipodia formation and antibody binding sites in the cells were examined by immunocytochemistry. Identification of anti-enolase1 antibodies was performed by immunoprecipitation, western blotting, mass spectrometry, and ELISA.

**Results** IgG from SLE with PAH significantly increased migration of PASMCs than those without PAH in a concentration dependent manner ( $p < 0.001$ ). After incubation with IgG, the number of cells with lamellipodia, which represents rearrangement of the cytoskeleton necessary to migration, was 1.4-fold higher in SLE with PAH than those without PAH ( $p < 0.01$ ). In immunocytochemistry, IgG from SLE with PAH were colocalized with b-tubulin in the cytoplasm of PASMCs, and western blotting showed that the antibodies bound to a ~50 kD protein in the lysates, which was subsequently identified as enolase1 reported to be involved in cell migration. Furthermore, the titer of IgG anti- enolase1 antibodies was 1.5-fold higher in SLE patients with PAH than those without PAH.

**Conclusions** IgG from a patient with SLE accompanied by PAH promoted a migration of PASMCs, which is possibly ascribed to autoantibodies to enolase1.

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#### A CHALLENGE IN THE MANAGEMENT OF LUPUS NEPHRITIS WITH ACUTE KIDNEY INJURY, HEART FAILURE ON HEMODIALYSIS AND ORAL WARFARIN THERAPY: A CASE REPORT

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**Background and aims** Systemic lupus represents a major autoimmune disorder that leads to different major injuries to different organs of the body. Lupus nephritis can present with different disorders like nephrotic syndrome, acute kidney injury and rapidly progressive glomerulonephritis. Wise and tailored management of these cases is a must for nephrologists in order to gain the complete remission with the least side effects. If lupus nephritis is associated with other organs problems like heart failure, prosthetic valves and oral warfarin therapy, it needs more wise management. We clarify the tailored management of lupus nephritis induced nephrotic syndrome and acute kidney injury meanwhile the patient on oral warfarin therapy for prosthetic valve replacement and subsequent heart failure.

**Methods** We report a case of heart failure with mitral and aortic valves replacement on oral warfarin therapy. She had nephrotic syndrome, AKI due to lupus nephritis. The patient received high dose of oral steroid and maintained on hemodialysis for 2 months with full recovery of the AKI and partial recovery of the nephrotic syndrome.

**Results** The patient received oral high dose steroid only. Partial remission of the nephrotic syndrome occurred with full recovery of the acute kidney injury and she was maintained

on once per week ultrafiltration session with improvement of the ejection fraction of the heart.

**Conclusions** Lupus nephritis can present with complex situations. Individualization and tailoring the management for every patient in order to gain complete remission represents a challenge for nephrologists.

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#### THE CLINICAL AND LABORATORY FEATURES OF PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS IN KYRGYZSTAN

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**Background and aims** There are no data regarding the real-life picture of SLE in Kyrgyzstan.

**Methods** In a prospective observation included 325 patients with SLE, who were treated in NCCIM (2012 - 2016). Majority of these patients (301) were young women (median - 27 [25;41]), primarily Kyrgyz (284), with disease duration of 3 (median-3,0 [0.7;8.0]) years. Assessed SLEDAI 2K and SDI.

**Results** They were mostly patients with acute variant of SLE- 129 (39.7%), 127 (39.08%) were with high and 86 (26.46%) with very high activity. Most of the patients - 283 (87.1%) were registered with immunological activity. In most cases of the disease were: skin lesions (97.23%), serous membrane lesions (65.54%) and kidney lesions (59.38%). The neurological symptoms was noted in 120 patients (36.92%): 99 of 120 patients (82.5%) had a significant CNS lesions; 32 patients of 99 (32.3%) had neuropsychiatric disorders, 27 of these patients had visual and auditory hallucinatory syndrome. Respiratory disorders occurred in 60 (18.46%) patients. The vast majority of these patients were with pulmonary arterial hypertension (46.66%). Acute lupus pneumonitis was detected in 23 (38.33%) patients. At the onset of the study, SDI was identified in 65 patients (20%). These were mainly patients with irreversible changes in the kidney (30,8%), associated with taking GC (27.7%).

**Conclusions** Acute onset of the disease (39.7%) was noted in most Kyrgyz patients. 97.23% of those ones with primary skin lesions, 65.54% with serous membrane lesions and 59.38% with kidney lesions, 39.92% patients had various neurological symptoms, 32.3% of these patients had serious neuropsychiatric disorders.

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#### COMORBIDITIES IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS PRIOR TO AND FOLLOWING DIAGNOSIS: CASE-CONTROL STUDY

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**Background and aims** Systemic lupus erythematosus (SLE) and may associate with several categories of comorbidities. We conducted this population-based study to examine the risk of a comprehensive range of comorbidities in patients with SLE compared with matched controls.