Systemic Lupus Erythematosus

Alternative Names
SLE
Excess Lymphocyte Low Molecular Weight DNA
Excess LMW-DNA

Record Category
Disease phenotype

WHO-ICD
Diseases of the musculoskeletal system and connective tissue > Systemic connective tissue disorders

Incidence per 100,000 Live Births
11-50

OMIM Number
152700

Mode of Inheritance
Autosomal dominant

Gene Map Locus
1q41-q42, 16p12.3-q12.2, 16p13.3, 1q23, 1q23, 13q32, 12q24, 11q14, 1p13, 4p16-p15.2, 2q37.3

Description
Systemic Lupus Erythematosus (SLE) is a chronic autoimmune disorder, characterized by production of auto-antibodies against the patient’s own nuclear antigens. This is a disease affecting multiple systems, and the symptoms range from chronic fever, malaise, joint pain, myalgia and fatigue to more serious dermatological (malar rash, alopecia, vaginal ulcers), musculoskeletal (arthalgia, arthritis, osteonecrosis, and osteoporosis), hematological (anemia, Raynaud’s phenomenon), cardiac (pericarditis, myocarditis, Libman-Sacks endocarditis, and atherosclerosis), pulmonary (pleuritis, pneumonitis, pulmonary emboli, pulmonary hemorrhage), renal (nephritis and renal failure) and/or neurological (seizures and psychosis) complications. The auto-antibodies produced are mainly anti double stranded DNA, anti Smith, anti RNP, anti Ro, anti La etc. The varied manifestations of the disease are due to deposition of immune complexes in the various tissues.

SLE is more common among females than males, increasing to 15 times more during childbearing years. The disease also shows a racial preference, being more prevalent among African American blacks than among the Caucasians. The annual incidence of SLE ranges from six to 35 new cases per 100,000 population in relatively low-risk to high-risk groups.

Diagnosis of the disease is made on the basis of a criteria established by the American College of Rheumatology (ACR) in 1982. The chief test, however is for antinuclear antibody; more specifically for anti dsDNA, anti Smith antigen, and anti extractable nuclear antigen (ENA) antibodies. No cure exists for SLE. Corticosteroids and immunosuppressants are administered to control the disease. Antimalarial drugs like hydroxychloroquine are also sometimes used for the arthritic complications. Nephrological complications may require drugs like Cyclophosphamide.

Molecular Genetics
Not much is known about the genetics of SLE, although the disorder is known to be influenced by multiple genes. One of the most important genes is the Receptor for Fc Fragment of IgG, Low Affinity IIa (FCGR2A). These receptors play a very important role in immune complex clearance. Mutations in the gene, therefore, lead to systemic deposition of immune complexes, resulting in high susceptibility to SLE. Presence of race specific genes is a feature of SLE genetics. SLEB1 (Susceptibility to Systemic Lupus Erythematosus) and SLEB5 are common in African American families, while the genes SLEB3, SLEB4, and SLEB6 are seen in European American families.
Epidemiology in the Arab World

Bahrain

Ebrahim et al. (2002) conducted the first study about systemic lupus erythematosus (SLE) in Bahrain. The clinical and laboratory manifestations of 50 Bahraini patients were studied retrospectively over the ten year period 1991-2000 and the findings were compared with those of the SLE patients in the surrounding area and Caucasian patients. Male to female ratio was 1:17, which was close to that of the UAE. Antinuclear antibodies (ANA) test, latex slide test, radial immuno-diffusion method, enzyme immunoassay, hematological tests, urine analysis, and renal biopsy diagnosis were the main dependent laboratory methods. The initial presenting symptoms were arthralgia/ arthritis (78%) and fever (66%). Renal involvement appeared in 25 patients (50%) in the form of proteinuria, hematuria, and/or biopsy changes. Bahrain series showed significantly less urinary casts than other series. Only 14 patients had renal biopsy, and they were classified according to WHO system. Mesangiproliferative changes (WHO II) formed 44% of the biopsies, diffuse proliferative changes (WHO IV) formed 36%, and membranous glomerulonephritis (WHO V) was seen in 20%. Sixteen patients with renal disease had low serum complement C3 and C4 levels, two patients had only low C3, and one patient had only low C4. It was noticed that low C3 level is an indicator of active disease. Another clinical finding in SLE patients was the neuropsychiatric disorders which involved 13 patients (26%). Of those patients, five had seizures, and two demonstrated cerebral atrophy. In addition, seven had low C3 and C4, while two had only low C3. It is noticeable that neuropsychological manifestations were less in Bahrain series than in UAE series. Skin disorders were also found in 28 patients (56%) in the form of alopecia, malar rash, photosensitivity, and/or purpuric rash. However, Bahraini patients revealed less photosensitivity than the other compared patients. Hematological findings showed the presence of anemia (84%), Coomb’s positive hemolytic anemia (4%), leukopenia (56%), and thrombocytopenia (16%) in Bahrain series. Ebrahim et al. (2002) attributed the presence of low frequency of neuropsychiatric symptoms with the apparent absence of antibody-mediated hemolytic anemia to a coincidence. Positive ANA test had the frequency of 100% and the antibodies were IgG type. On the other hand, double strand DNA antibodies (anti-dsDNA) were found in 72% of patients which was close to that of Caucasians. Only two female patients of eight tested were positive to anticardiolipin antibodies and lupus anticoagulant (25%). Rheumatoid factor was tested in 29 patients and only three had positive result. Ten percent of the patients died from cerebral vasculitis, septicemia, renal failure and infection, and multiple organ failure.

Al-Naqdy and Al-Shukaily (2005) tested patients with SLE (30 patients), recurrent abortions (44), and thrombosis/thrombocytopenia (36) for the presence of anticardiolipin (ACA) and anti beta2-glycoprotein antibodies. All groups of patients showed a significantly higher frequency of the antibodies, ACA (SLE-23%, recurrent abortions-27%, thrombosis-36%) and anti beta2 GP (SLE-16.6%, recurrent abortions-18%, thrombosis-22%), when compared to 30 age and gender matched healthy controls (ACA-6%, anti beta2 GP-3%). Both antibodies were detected in 10% of the SLE patients, 13.6% of the patients with recurrent abortions, and 1.4% of patients with thrombosis. Incidentally, all patients with SLE who showed the presence of both antibodies also showed clinical characteristics of thrombosis/thrombocytopenia. The authors suggested that both antibodies be used together in the diagnosis of APS, in order to circumvent the lack of specificity of ACA.

See also: Egypt > Ebrahim and Chawla, 1995.

Egypt

Ebrahim and Chawla (1995) reported a 31-year-old Egyptian woman in whom SS-A(Ro), SS-B(La) antibody positive SLE was diagnosed five years after she gave birth to a daughter with the congenital complete heart block. She had two years history of intermittent pain and swelling of the joints of hands, feet, shoulder, neck, knees and ankles. There was a history of early morning stiffness lasting two to three hours. She complained of loss of hair from her scalp. The patient had two daughters. The younger daughter was affected with neonatal lupus syndrome. The first ECG of the daughter done at three months of age revealed a complete heart block, but echocardiography did not reveal any structural cardiac abnormality. Immunological work-up revealed anti nuclear antibodies positive, anti double stranded DNA antibody positive, LE cell phenomenon positive, antibodies against extranuclear antigens AA-A(Ro) positive, SS-B(La) positive. On the other hand, immunological work-up for the daughter showed that Anti SS-A(Ro), Anti SS-B(La), Anti RNP and Anti SM antibodies were all negative.
Helal et al. (2001) presented the clinical, morphological and immunohistochemical features of 10 cases having the lymphnodal histological pattern of Kikuchi disease. Two of these were diagnosed as systemic lupus erythematosus (SLE). Morphologically, Kikuchi disease and SLE were nearly indistinguishable. Plasma cells, neutrophilic infiltration, hematoxyphilic bodies and vasculitis were not useful in differentiating the conditions.

**Lebanon**
Uthman et al. (2001) conducted a retrospective study of the clinicopathological characteristics of 50 systemic lupus erythematosus patients with nephritis who underwent a kidney biopsy and were admitted to the American University of Beirut Medical Center, in Lebanon, between 1979 and 1999. There were 43 females and seven males, with a median age of 24 y. Renal histology slides from these patients were assessed according to the World Health Organization classification, and were distributed as follows: class I (n = 3, 6%); class II (n = 14, 28%); class III (n = 11, 22%); class IV (n = 19, 38%); class V (n = 1, 2%); class VI (n = 2, 4%). On their last evaluation, out of 37 patients who were followed, 20 patients (54%) had controlled disease, eight patients (22%) were still on active medical treatment, four patients (11%) were on chronic hemodialysis, and five patients (13%) had died.

**Oman**
Al-Faur et al. (1996) reported a 30-year old Omani patient diagnosed with SLE who presented with psychiatric symptoms. She presented with a two-month history of episodes of fever, arthralgia, blood stained stools, and abnormal behavior. She was tachycardic, normotensive, with generalized lymphadenopathy. She also had typical facial butterfly rash, right pleural effusion, and hepatosplenomegaly. There was no neurological deficit but she had cognitive dysfunction. Investigations revealed hypochromic microcytic anemia, ESR of 82mm/hr, positive antinuclear and double stranded DNA antibodies but negative rheumatoid factor and LE cells, low compliment C3 and C4 levels, and positive VDRL after initial negativity. Ultrasound confirmed the hepatosplenomegaly, and the right pleural effusion which was sterile (negative gram and ZN stains, no growth on routine culture, and AFB culture). With the above findings, she was then diagnosed as SLE with neuropsychiatric manifestation, and was managed by steroids. Despite that, her condition deteriorated and she began to show features of frank psychosis. Suspecting this to be lupus encephalopathy, the steroid dose was increased. The response could not be monitored, as the patient left medical advice, coming back again after two weeks with an increased state of delirium which did not respond to decreasing the steroid dose from 60mg to 40mg, as a diagnosis of steroid induced psychosis was suspected. She then again left medical advice. Al-Faur and colleagues (1996) diagnosed two other cases with SLE during a period of two years, but neither had shown features of psychiatric illnesses.

Al-Maini et al. (2000) studied whether the soluble form of the FAS apoptosis antigen (sFas) had a role in the disease activity or organ damage in SLE by measuring the sFas levels (by double antibody ELISA) of 39 Arab patients with SLE (male:female ratio of 2:37) with different degrees of disease activity and organ damage over a four year period and comparing them to those of 22 race-, gender-, and age-matched healthy individuals. A total of 21 patients had renal involvement (17 confirmed as lupus nephritis by biopsy), 15 had neuropsychiatric manifestation, nine had cardiac involvement, and two had pulmonary involvement. All patients received disease-modifying drugs after initial evaluation. The patients were subdivided into group A (total cohort), group B (patients without major organ involvement), and group C (with major organ involvement) which was further subdivided into group D (renal involvement with other major organ involvement), group E (only renal involvement), group F (central nervous system involvement with other major organ involvement), and group G (only central nervous system involvement). Investigations carried out were full blood counts, renal and liver function tests, ESR, CRP, C3 and C4 compliment levels, and autoantibody [ANA, dsDNA, ENA- SS-A (Ro), SS-B (La), Jo-1, Sm, RNP, and Scl-70] levels. Organ damage was monitored using the Systemic Lupus International Collaborating Clinics/American College of Rheumatology Damage Index (SLICC/ACR). The Student’s t-test was used to compare data obtained from the control and the patients as well as for comparison among the patients’ subgroups. The correlation between sFas and different variables was analyzed by linear regression analysis followed by stepwise multiple regression to exclude the effect of highly correlated variables and non significant ones. The strength of the correlations was then tested by the beta-coefficient. Al-Maini et al. (2000) founded that the level of sFas was higher among the patients (0.60 ng/ml SD 0.38) than the controls (0.26 ng/ml SD 0.11) and it was higher in all subgroups of group C.
(except groups F and G) than in group B. When the sFas levels were compared with organ damage index (SLICC/ACR), a positive correlation was found for the total cohort and group C but not group B. No correlation was found between sFas levels and either SLEDAI or acute phase reactants. In the cohort and group C, correlation was found between sFas levels and renal function tests, liver function tests, lymphocyte and neutrophil granulocyte counts and anti Sm antibodies. No such correlation was found in group B and no significant difference of sFas levels among different drug treatment subgroups was found. Al-Maini et al. (2000) concluded that elevated serum levels of sFas could be associated with kidney or liver damage in SLE patients, although their study did not prove a causative connection. They also suggested that sFas may actually prevent further damage by inhibiting Fas-mediated apoptosis (could have a therapeutic role in SLE or other conditions with organ damage). Two years later, Al-Maini et al. (2002) studied the disease presentation during the period of 1994 – 2000, in 83 Omani SLE patients from two groups, Omani gulf Arabs-OGA (63 patients, mean age-24.5), and Omani Arabs of Persian descent-OAP (20 patients; mean age-26.5), which represented 52 and three tribes, respectively. Their demographic details were included and the disease activity was assessed by SLE disease activity index (SLEDAI) and the 24 SLEDAI descriptors were studied as well. ANA and dsDNA were measured by standard indirect immunofluorescence technique and both IgG and IgM of anticcadioliopin (ACA) and anti-beta-2-glycoprotein I antibodies were determined in both groups. Differences between the two groups were analyzed statistical analysis. Antinuclear antibodies (ANA) were found in all patients, while anti dsDNA was found in all OGAs and in only 15 out of 20 OAPs. OGA patients were found to have higher levels of IgG isotype of APL than OAP patients who had higher levels of IgM ACA antibodies than the OGA group. Lower prevalence of skin rash and joint complications was found among the OAP than the OGA patients, and analysis of geographical variation revealed higher risk of joint complications in patients from Dakhiliyah region than those from Muscat which might reflect on the large number of OAPs resident there. These two observations, as suggested by Al-Maini and colleagues (2002), explained both genetic and environmental influences on disease presentation. When comparing the APL antibodies and the clinical features within the ethnic groups, it was found that the Farsi tribe (one of the three tribes of OAPs) had a higher prevalence of proteinuria and skin rash than the rest of OAPs and OGAs when the anti-beta2-glycoprotein I IgM antibodies were the dependant variable, while when the anti-beta2-glycoprotein 1 IgG antibodies were the dependant variable, the other two tribes of OAPs (Belushi and Zadjali) had the higher prevalence of skin rash than the OGAs. It was also found that the ACA had no effect on the patterns of the clinical presentation of SLE in this study. Al-Maini et al. (2002) concluded by highlighting the role of genetic and environmental factors which attributed to the etiopathology of the disease and recommended further studying of the genetic markers to elaborate more in such variation in the disease presentation among different tribes.

El-Ageb et al. (2002) described the clinical profile of patients with Behcet’s disease, and determined the levels of their antiphospholipid antibodies, while comparing them with those of SLE patients. The study group, who were all Omani, consisted of 34 patients affected with Behcet’s disease (18 females, 16 males; mean age- 32.8 years), 73 SLE patients (70 females, 3 males; mean age- 23.7 years) and 27 healthy controls (13 females and 14 males; mean age: 26.2 years). The antiphospholipid antibody levels (both IgG and IgM isotypes of anticcadioliopin and anti-beta2 glycoprotein I) were measured by ELISA and the antinuclear antibodies (ANA) and antidi-sDNA were measured by standard indirect immunofluorescence techniques. Data obtained were statistically analyzed by chi-square distribution and unpaired t-test. At least one APL antibody was present in 32% and 74% of patients with Behcet’s disease and SLE, respectively, while none of the control subjects had these antibodies. Patients with BD were found to have normal values for the mean APL antibody levels (except for IgG anti-beta2 glycoprotein I antibodies), in contrast to a significantly higher range in SLE patients. No significant association between the APL antibodies levels and organ involvement was found in Behcet’s disease patients or SLE patients, and all Behcet’s disease patients had the same general patterns of the disease regardless of their antibodies levels. When studying the distribution of the antibody types among the two groups of patients, it was found that 41/54 and 4/11 of SLE and Behcet’s disease patients, respectively, had both isotypes of APL (ACA and anti-beta2 glycoprotein I) with no difference in its isotype distribution. IgM isotype was found to be more prevalent among the Behcet’s disease patients (6/11) than in the SLE patients (10/54), but the opposite was true when the anti-beta2 glycoprotein I antibodies were present alone (4/6 and 7/8 of Behcet’s disease and SLE, respectively). ANA were
were younger than 20-years at the onset of the disease pathologies. In the study group, 62% of the patients certain autoantibodies with various system features of this disease as well as the association of determine the demographic, clinical and laboratory factors measured by agglutination test (22%). The antiphospholipid antibodies (80%), and rheumatoid factor measured by counter current immunoelectrophoresis (64%), antineutrophil cytoplasmic antibodies (ANCA) (58%), antiphospholipid antibodies (80%), and rheumatoid factor measured by agglutination test (22%). The antibodies prevalence were not found to be significantly related to the age at onset except for anti-RNP which was found in 33.3% of younger patients and in only 7.1% of older patients. The mean disease activity was expressed by SLE disease activity index (SLEDAI) which was found to be 13.5 SD 11.4. Although the score was found higher among the younger age group (14.2 SD 12) than in the older group (12 SD 10.7) it was not statistically different. Systemic involvement seen in the patients involved the immunological (95%), musculoskeletal (47.8%), neurological (33.8%), and dermal (32.8%) systems, among others. Anti-MPO antibody and anti-PR3 antibodies (types of ANCA measured by ELISA) with cumulative frequencies of 52% and 40%, respectively, were found in association with renal pathologies and mouth ulcer (anti-MPO) and with vasculitis (anti-PR3). Simple and multinomial regression analysis for the association between ANA/ENA antibodies with all nine SLEDAI systems and eight individual SLEDAI descriptors (arthritis, protininuria, pyuria, new rash, alopecia, hypocomplementemia, fever and leucopenia) was carried out. Anti-ENA antibodies were found to be predictors for neurological and serosal pathologies, while individual anti-ENA antibodies were inhibitory of other systems pathology. Anti-Sm antibody was found to be a predictor for serosal pathology, alopecia and hypocomplementemia, while anti-SS-A antibody was found to be a predictor for musculoskeletal pathologies, and inhibitory for the development of fever and arthritis. Anti-Scl-70 antibody was found to be a predictor of pathologies in the immunological system. Pyuria was predicted by high titers of ANA (>1:320). Al-Maini et al. (2003) concluded that such information might help in the understanding of the pathogenesis of SLE as well as determining the long term prognosis of the disease patterns for the Omani patients.

Al-Riyami et al. (2003) reported a female patient (14 years old) with a unique variant of urticarial vasculitis syndrome (UVS), who later went on to develop SLE. The patient presented with urticarial rash, and skin biopsy revealed typical leukocytoclastic vasculitis without evidence of IgG or complement deposition. She had three similarly affected siblings and five unaffected siblings. The parents were unaffected and there was no family history of autoimmune diseases, urticaria or allergies. The patient and her affected siblings had low C4 levels but normal C3 and no C1q antibody was detected, and they had positive ANA with speckled pattern, but antibodies to double-stranded DNA, rheumatoid factor and antineutrophil cytoplasmic antibody (ANCA) were negative. Other investigations were normal which included liver function tests, electrolytes, urinalysis and urine microscopy, 24-h urine protein, chest radiography and serology for hepatitis B and C. The condition of the patient improved upon starting high dose steroids and iron supplements and this was evident by normalization of the Hb and ESR with relief of the symptoms. Elective bronchopulmonary alveolar lavage (BAL) revealed friable bronchial mucosa which bled easily and the aspirate had 3.3, 0.6, and 0.4 cells x 106/ml and macrophage levels which were hemosiderin laden of 95, 34, and 88, respectively.
Pulmonary function tests revealed restrictive lung disease which was due to the subclinical pulmonary hemorrhage (evident by the BAL results, lung biopsy of the first case, and the iron deficiency anemia in the absence of gastrointestinal bleeding). After a follow up period of five years, the patient developed SLE with high ANA titers, positive anti-Sm antibodies and protinuria along with the skin and lung involvement. Al Riyami et al. (2003) described this disorder as a new variant of urticarial vasculitis syndrome as there was ANCA negative vasculitis, restrictive lung disease and low C4 levels with normal C3 and C1q and absent C1q inhibitor.

Laparoscopic cholecystectomy performed in a pregnant lady (gravida 6, para 4, 1 abortion) with SLE, was reported by Machado (2004). She was diagnosed with SLE four years earlier when she presented with multiple joint pains, erythematous skin rash, face puffiness, Raynaud’s phenomenon and intermittent thrombocytopenia, and the diagnosis was confirmed by positive anti-nuclear antibodies (1:640), low compliments C3 and C4, positive ribonucleoprotein antibodies and negative antiphospholipid antibodies. She was then started on immunosuppressive therapy. At 26 weeks of gestation, she presented with right hypochondriac pain with tenderness and guarding in that region, along with fever, nausea and vomiting. Ultrasonography revealed an edematous thick-walled gallbladder with a solitary gallstone (1 cm), with normal common bile duct, and confirmed fetal viability. Management was initially conservative with intravenous antibiotics, but no improvement occurred within 48 hours. Laparoscopic cholecystectomy (inflamed gallbladder with omental adhesions around the fundus was found) was carried out uneventfully and with minimal bleeding. She was discharged after two days on her regular treatment and was followed up in the outpatient clinic. She then delivered a healthy baby boy at 38 weeks of gestation, whom was followed up for three years and was passing through normal milestones. Machado (2004) encouraged the use of laparoscopic cholecystectomy in pregnant ladies because of its advantages, having lower incidence of wound complication, less need for postoperative narcotics, and reduced periods of immobilization. Machado (2004) also delineated the advantage of laparoscopy in patients with immunosuppressive therapy as they would resume their immunotherapy within short period, as well as reduce the incidence of immunotherapy related wound complications.

Alnaqdy et al. (2004) reported an unusual case of SLE with negative ANA. This 31-year old Omani female had presented two years earlier with one month history of joint pain, especially in hands, feet and the hip joints, associated with early morning stiffness, which improved by the end of the day. She also had increased loss of hair and intolerance to sunlight exposure (eyes and skin). Examination was unremarkable and investigations revealed weakly positive ANA with a titer of 1:40, which was subsequently negative when repeated. On the other hand, an elevated level of anti dsDNA antibodies was detected, with a titer greater than 1:640, and levels of 970units/ml on ELISA. The serum IgM subclass of anticardiolipin antibodies was positive (27 MPL) while the IgG subclass was negative (15 MPL). Other tests were normal which included extracted ENA, complement components C3 and C4, full blood count, ESR, urine microscopy, urea and electrolytes, liver function tests, echocardiogram and bone densitometry analysis. A diagnosis of SLE with predominantly musculoskeletal manifestation was made and the patient was managed successfully with hydrochloroquine (200 mg twice daily) and prednisolone to a maintenance dose of 5 mg per day. Throughout the follow up period the ANA remained negative while the anti dsDNA continued to be significantly high.

United Arab Emirates
In 1995, Al-Attia and George studied 28 SLE patients (Arabs and Asians) in the UAE. The F:M ratio was markedly high; 27:1 in the group as a whole and 21:1 among Arabs. Local patients (Emiratis) developed the disease at an earlier age compared to their expatriate Arab compatriots. Arthropathy occurred in 86% and nephropathy in 43% of cases. Next in frequency were leucopenia, mucocutaneous manifestations and serositis. Apart from lupus headache, the other neuro-psychiatric LE were uncommon or not encountered. Anti-cardiolipin syndrome, Sneddon's syndrome, shrunken lung syndrome, sicca complex, thyrotoxicosis and myasthenia gravis were also
present in this small group of patients. An unusually high prevalence of anti ds (DNA) antibodies (92.5%) as compared to ANF (82.5%) was detected (P = NS). Anti-Sm antibody occurred in 30% of cases particularly in those patients with lymphadenopathy and fever. One year later, Al-Attia (1996) conducted a clinical and laboratory survey of systemic lupus erythematosus in 33 Arab patients in the UAE. Arthropathy (91%) followed by renal involvement (54%) and hematological disorders (45.5%) were the major clinical manifestations. Discoid rash (3%) was the least common. Apart from headaches, other neuropsychiatric symptoms were uncommon or not encountered. A number of distinctive clinical subsets of lupus were also observed. An unusually high prevalence of dsDNA antibodies was detected in the study (97%), compared with a prevalence of 89.5% of ANF. There was a relative paucity of anti-Ro (18.5%), La (7.5%) and RNP (11%) antibodies, but a high rate of anti-Sm (33%). The occurrence of the latter in patients with central nervous system and renal disease was insignificant. C3-Hypocomplementaemia occurred in 38.5% of the patients and a positive VDRL and Coomb's test in 9% and 24%, respectively.

In 1998, Al Attia et al. studied the autoantibody profile of Arabs with lupus nephritis (LN) by analyzing the records of 42 Arabs with classical systemic lupus erythematosus (SLE). Among the patients, 21 (50%) had LN and 21 were without, but most of the patients with LN have developed their nephropathy within the first five years of the disease. Both groups had markedly high prevalence of dsDNA antibodies. In addition, there was no significant negative association between detectable rheumatoid factor (RF) and patients with LN. Al-Attia and Ahmed (1998) further studied the medical records of the 42 Arab patients with SLE (38 females; 1/3 UAE nationals) and diagnosed over a period of 7 years. The prevalence of criterial and non-criterial mucocutaneous lesions in these patients was assessed. The autoantibodies were assayed using indirect immuno fluorescence, hemagglutination, and ELISA. None of the patients had subcutaneous nodules. Criterial mucocutaneous lesions were shown by 71% of the patients. The incidence of malar rash was low (35.5%) when compared to other reports dealing with non-Arabs as well as predominantly Iraqi and Saudi Arab patient populations. Livedo reticularis was also low in prevalence. Discoid rash, which is more common in blacks, was seen in only three of the patients; two of whom had an African admixture. Prevalence of Raynaud’s phenomenon (7%) was similar to previously reported values for the Saudi Arab group, but significantly less than that for the Iraqi population. Al-Attia and Ahmed (1998) attribute this to the climatic differences. A significant association was found between antiphospholipid antibodies and lack of photosensitivity in the patients. There was also a significant correlation between the presence of Sm antibodies and oral ulceration in the patients.

Yahya et al. (1998) studied native kidney biopsies of adult patients retrospectively. The data were collected from four hospitals in Abu Dhabi from 1978 to 1996 by reviewing histopathologic reports of these patients. Yahya et al. (1998) found that Systemic Lupus Erythematosus had a frequency of 40.7% among secondary glomerular diseases.

Al Attia et al. (1999) examined a 38-year-old Arab woman in the UAE who was suffering from cellulitis of the left hand and ischemia of the right second toe. The diagnosis for her case was systemic lupus erythematosus/myositis overlap syndrome for about ten years. Raynaud’s phenomenon was appeared for years, but it improved finally. Radiological study showed heavy lesions in the abdominal wall which were tumoral-like calcinosis. Calcinosis was treated with diltiazem. Both anti-nuclear factor and anticientromere antibodies had positive results.

In 2001, Al Attia reported the case of an Arab woman with a history of multiple fetal losses and spontaneous venous thromboembolism, which recurred on several occasions. The presence of antiphospholipid antibodies in the absence of other clinical and serological features of systemic lupus erythematosus (SLE), including negative antinuclear antibodies (ANA), confirmed the diagnosis of primary antiphospholipid syndrome (PAPS). More than 15 years after the beginning of clinical events and 10 years after diagnosis, she progressed into the immunological domain of SLE without concurrent clinical features. The patient exhibited weakly positive ANA of a speckled pattern, strongly positive anti (ds) DNA antibodies and false positive VDRL. Lymphopenia has not been observed at any stage of the follow-up. Al Attia (2001) hinted that although the evolution of PAPS into SLE has been infrequently reported, this seems to be another case suggesting that PAPS in some patients may be an early manifestation of SLE. Few years later, Al Attia and D’Souza (2003) described two patients with classic SLE associated with secondary sicca syndrome in UAE. Sera of both the patients showed the presence of
topoisomerase I antibody, a specific marker for scleroderma. However, neither of them showed clinical symptoms of scleroderma. The first case was a 53-year old Arab woman, who was diagnosed with SLE after analyzing her clinical symptoms and serological tests for ANA and anti-Sm antibodies. She was treated with oral prednisolone and nifedipine. The patient’s sera tested positive for anti dsDNA, Ro, La, RNP, and Scl-70 (anti topoisomerase I) after a year, although no features of systemic sclerosis were detected. She later developed Sicca syndrome. The patient remained well even four years after the initial diagnosis of SLE. The second patient was a 50-year old Arab woman, who was also diagnosed with SLE, following her complaints of arthralgias, myalgias, dicoid lupus of the scalp, and positive assays for ANA and dsDNA antibodies. Four years later, she developed Sicca syndrome, characterized by a dry mouth and eyes. In her case, however, the disease became more aggressive, with renal and cardiopulmonary complications. She was found to have rising levels of Scl-70 antibodies in the serum. The patient later died due to multiple organ failure. Her last serological profile was negative for anti Scl-70 antibodies. Al Attia and D’Souza (2003) claimed that these cases, along with other previously reported cases, suggest a new subset of patients with SLE, who are associated with antitopo-I. The presence of Sicca syndrome in these patients makes them unique among all the other cases reported.

In 2006, Al Attia compared a subgroup of patients with borderline systemic lupus erythematosus (SLE) with those with classic lupus. A retrospective survey was undertaken of a database containing the clinical information of a total of 71 patients in an Abu Dhabi hospital setting over a 12-year period. Fifty-six patients had SLE and 15 were considered to have borderline SLE as they satisfied less than four criteria of classification. Age and female sex distribution were no different in the two subgroups, but the disease duration was shorter in patients with borderline lupus. The occurrence of arthropathy (non-erosive), serositis, thrombocytopenia, hemolytic anemia, and malar eruption was common to both subgroups. Patients with borderline SLE lacked other mucocutaneous manifestations of lupus and major organ disease involvement. A number of other clinical features were also observed in the latter subgroup, including antiphospholipid (APL) syndrome. In addition, patients with borderline SLE expressed a multiple autoantibody profile, but had lower titeres of antinuclear factor (ANF) and anti-double-stranded DNA (anti-dsDNA) antibodies than those with classic SLE. None progressed to full-blown SLE after a mean period of follow-up of 21.2 months. Al Attia (2006) concluded that borderline SLE was milder than classic lupus and indicated that borderline SLE could possibly be a forerunner to SLE rather than a separate entity.

See also: Oman > Al-Maini et al., 2000

References
Al Attia HM. Progression of primary APS (Hughes syndrome) into serological SLE: case report. Rheumatol Int. 2001; 20(2):79-80. PMID: 11269537


**Related CTGA Records**
Antiphospholipid Syndrome
Behcet Syndrome
Complement Component 4A
Hemolytic-Uremic Syndrome
Myasthenia Gravis
Tumor Necrosis Factor

**External Links**
http://www.emedicine.com/MED/topic2228.htm
http://www.lupus.org/
http://www.medicinenet.com/systemic_lupus/article.htm
http://www.orpha.net/consor/cgi-bin/OC_Exp.php?Lng=GB&Expert=536

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