

Cerebrovascular and neurologic disease associated with antiphospholipid antibodies: 48 cases

Levine S, Deegan M, Futrell N, Welch K.
Neurology 199; 40:1181-1189.

Lupus anticoagulants and anticardiolipin antibodies are antiphospholipid antibodies (APLAb) with related antigenic specificities and are newly recognized markers for an increased risk of thrombosis. We studied 48 patients who presented with cerebral or visual dysfunction associated with APLAb to help clarify the diagnostic, clinical, laboratory, radiologic, and pathologic features in these patients. Most patients presented with transient cerebral ischemia or cerebral infarction. Recurrent and stereotypic events were frequent. Visual disturbances resulted from amaurosis fugax, retinal arterial or venous occlusion, occipital ischemia, diplopia, and migraine-like disturbances. Three patients presented with severe atypical classic migraine. Recurrent infarcts of brain and eye were significantly associated with the presence of cigarette smoking, hyperlipidemia, and a positive antinuclear antibody. During 44.4 patient-years of prospective follow-up, the combined stroke and systemic thrombotic event rate was 0.27 events per patient-year and was 0.54 events per patient-year if TIA and death were included. Forty (83%) of the patients did not have systemic lupus erythematosus (SLE). Thrombocytopenia was present in 15 (31%) and a false-positive VDRL in 11 (23%) of the patients. Cerebral angiography was normal or revealed large-vessel occlusion or stenosis without changes suggestive of vasculitis. Patients with only transient dysfunction generally had normal radiologic studies, including angiography. Organs and arterial vessels studied pathologically revealed thrombotic occlusive disease without vasculitis. APLAb are strongly associated with an immune-mediated thrombotic tendency, generally in the absence of SLE. Other stroke risk factors may add to the risk of recurrent ischemic events in patients with APLAb.

Day-to-day variability of serum cholesterol, triglyceride, and high-density lipoprotein cholesterol levels Impact on the assessment of risk according to the National Cholesterol Education Program guidelines

Bookstein L, Gidding S, Donovan M, Smith F. *Arch Intern Med* 1990; 150:1653-1657.

The National Cholesterol Education Program has recently published guidelines for the assessment of cardiovascular risk and goals for laboratory accuracy. To test the impact of biologic and analytic variability on the ability of a single lipid measurement to assess risk accurately, lipids were measured on three occasions in 51 volunteers. Notable day-to-day variability of total cholesterol (5%), triglyceride (20%), high-density lipoprotein cholesterol (10%), and calculated low-density lipoprotein cholesterol (8%) levels was found. Analytic variability contributed significantly to total variability of high-density lipoprotein cholesterol levels and calculated low-density lipoprotein cholesterol levels. Confidence intervals constructed around National Cholesterol Education Program cutoff points suggested that classification was re-

liable from a single measurement if total cholesterol value was below 4.78 (< 185 mg/dL), between 5.56 and 5.81 (215 and 225 mg/dL), or above 6.59 mmol/L (> 225 mg/dL). Low density lipoprotein cholesterol value classification from a single measurement was only accurate at below 3.00 (< 116 mg/dL) or above 4.50 mmol/L (> 174 mg/dL). This study documents significant day-to-day variability of serum lipids and suggests that patients near the National Cholesterol Education Program cutoff points may require repeated measurements to assign risk accurately.

The effects of workplace health promotion on absenteeism and employment costs in a large industrial population

Bertera RL. *Am J Pub Health* 1990; 80:1101-1105.

We evaluated the impact of a comprehensive workplace health promotion program on absences among full-time employees in a large, multi-location, diversified industrial company. A pretest-posttest control group design was used to study 41 intervention sites and 19 control sites with 29,315 and 14,573 hourly employees, respectively. Blue-collar employees at intervention sites experienced an 14.0 percent decline in disability days over two years versus a 5.8 percent decline at control sites. This resulted in a net difference of 11,726 fewer disability days over two years at program sites compared with non-program sites. Savings due to lower disability costs at intervention sites offset program costs in the first year, and provided a return of \$2.05 for every dollar invested in the program by the end of the second year. These results suggest that comprehensive workplace health promotion programs can reduce disability days among blue collar employees and provide a good return on investment.

Latent varicella-zoster viral DNA in human trigeminal and thoracic ganglia

Mahalingam R, Wellish M, Wolf W, Dueland A, Cohrs R, Vafai A, Gildeen D. *N Engl J Med* 1990; 323:627-631.

Some human herpesviruses become latent in dorsal-root ganglia. Primary infection with the varicella-zoster virus causes chickenpox, followed by latency, and subsequent reactivation leading to shingles (zoster), but the frequency and distribution of latent virus have not been established.

Methods. Using the polymerase chain reaction, we performed post-mortem examinations of trigeminal and thoracic ganglia of 23 subjects 33 to 88 years old who had not recently had chickenpox or shingles to identify the presence of latent varicella-zoster viral DNA. Oligonucleotide primers representing the origin of replication of the varicella-zoster virus and varicella-zoster virus gene-29 were used for amplification.

Results. Among the 22 subjects seropositive for the antibody to the virus, both the viral origin-of-replication and gene-29 sequences were detected in 13 of 15 subjects (87 percent) in whom trigeminal ganglia were examined and in 9 of 17 (53 percent) in whom thoracic ganglia

were examined. Viral DNA was not detected in brain or mononuclear cells from the seropositive subjects. None of three thoracic ganglia from the one seronegative subject contained varicella-zoster viral DNA.

Conclusions. These findings indicate that after primary infection with varicella-zoster virus (varicella), the virus becomes latent in many ganglia – more often in the trigeminal ganglia than in any thoracic ganglion – and that more than one region of the viral genome is present during latency.

Infrared thermographic imaging, magnetic resonance imaging, CT scan and myelography in low back pain

Cullum DT, Siahhamis G, Langlois S. *Br J Rheum* 1990; 29:268–273.

Sixty-five cases of chronic low back pain were studied. Infrared thermography (IRT) was abnormal in 92%, magnetic resonance imaging (MRI) in 89%, computerized tomography (CT) in 87% and myelography in 80%. IRT correlated with MRI in 94% of cases, and with CT in 87% of cases. Of 22 MRI positive disc and root cases, 21 (95%) had significant leg abnormalities on IRT. All 19 cases with radicular involvement on CT and all 18 with radicular involvement on myelography demonstrated significant leg changes on IRT.

Radial head subluxation: epidemiology and treatment of 87 episodes

Schunk JE. *Ann Emerg Med* 1990; 19:1019–1023.

Radial head subluxation is a frequent upper-extremity injury in children. Through a prospective study of patients seen in the emergency department, the epidemiology and treatment were reviewed, and two methods of reduction were compared. During a nine-month period, there were 87 episodes of radial head subluxation in 83 children with six cases in infants 6 months old or younger. A pull mechanism of injury was not identified in 49% of the cases. Girls were seen more often than boys, the left arm was more frequently involved, and the incidence of recurrence was 26.7%. The two reduction methods did not differ significantly in their initial success rate. The presence of a click during a reduction attempt had a positive predictive value of 92% and a negative predictive value of 76%. Most children (76.8%) had return of arm use in less than ten minutes. Slow return of arm use (more than ten minutes) was not associated with delay in reduction but was associated with age of less than 2 years ($P < .001$).

Antiphospholipid antibodies and cerebral ischemia in young people

Brey R, Hart R, Sherman D, Tegekr C. *Neurology* 1990; 40:1190–1196.

The importance of a prothrombotic state as a cause of ischemic stroke in young adults is ill defined. We examined 46 unselected patients under age 50 years with cerebral ischemia for anticardiolipin antibody (aCL) and lupus anticoagulants (LA), over a 3-year period. Age- and sex-matched patients with other neurologic diseases served as a noncerebral ischemia comparison group to test whether (1) stroke/transient ischemic

attacks (TIA) in young people is associated with aCL and/or LA, and (2) their presence is specific to cerebral ischemia. In the stroke/TIA group, 21 patients had aCL or LA and 25 had neither, whereas in the control group, 2 patients had aCL and 24 had neither. Equal numbers of stroke/TIA patients with and without antiphospholipid antibodies (aPL) had other stroke risk factors. Patients with aPL and cerebral ischemia, however, had a more frequent history of multiple events than those without them. These antibodies occur with undue frequency in young patients with stroke/TIA and are not associated with a concurrent diagnosis of systemic lupus in most cases. A coexistent aPL-associated prothrombotic state may be a key determinant of whether patients with atherosclerosis, mitral valve prolapse, or other structural lesions experience recurrent ischemia.

Within-person fluctuations of serum cholesterol and lipoproteins

Mogadam M, Ahmed S, Mensch A. *Arch Intern Med* 1990; 150:1645–1648.

The National Cholesterol Education Program has begun a National Campaign to screen millions of adult Americans for serum cholesterol. To determine whether such random samples represent an individual's true lipoprotein status, we measured fasting total serum cholesterol and lipoproteins, on a weekly basis for 4 weeks, in 20 subjects ages 22 to 63 years. Duplicate samples were tested by two standardized laboratories, each on five consecutive days. Variations of more than $\pm 20\%$ in the serum levels of total cholesterol, low-density lipoprotein cholesterol, and high-density lipoprotein cholesterol were seen in 75%, 95%, and 65% of the subjects, respectively. On retesting, 40% of the subjects moved in or out of one "risk category"; and 10%, two categories, from "desirable" to "high risk," or vice versa. These data demonstrate that random testing may fail to detect wide fluctuations in the levels of serum lipoproteins, and therefore result in erroneous risk assignment or therapeutic intervention.

Computed tomography of the sacroiliac joints in four patients with Behçet's syndrome – confirmation of sacroiliitis

Olivieri I, Gemigani G, Camerini E, Semeria R, Pasero G. *Br J Rheum* 1990; 29:264–267.

In order to reduce the subjective factor in evaluating sacroiliac joint radiographs we further evaluated changes seen on standard plain films of patients suffering from Behçet's syndrome (BS) by using computed tomography (CT). Sacroiliac joint films of 20 consecutive patients with BS were mixed with those of 20 consecutive control patients and read blindly and independently by two observers. Six patients with BS met the New York criteria for sacroiliitis. Of the control patients, one had monolateral grade I sacroiliitis and two revealed findings consistent with osteitis condensans ilii. CT confirmed the diagnosis of sacroiliitis in patients with BS showing a high degree in at least one joint. The results of the present study suggest that the use of CT for BS patients showing sacroiliac joint changes on pelvic films may limit the confusion which exists about this finding in BS.