

**Table 2. Selected Causes and Risk Factors for Ischemic Stroke in Young Adults and Adolescents.****Causes (frequency)\***

Large-vessel atherosclerosis (2–11%)

Small-vessel disease (7–14%)

Cardiac embolism (20–47%)

Other determined cause (20–34%)

Multiple causes (2–3%)

**Risk factors****Arterial**

Cerebral-artery dissection

Reversible cerebral vasoconstriction syndrome

Moyamoya disease

Sickle cell disease

Transient cerebral arteriopathy of childhood

Premature atherosclerosis or lipohyalinosis

Radiation-induced arteriopathy

Migraine-induced stroke

Illicit-drug use (e.g., cocaine, amphetamines, or 3,4-methylenedioxymethamphetamine ["ecstasy"])

Infectious arteriopathy (associated with varicella infection, tuberculosis, fungal or bacterial meningitis, syphilis, or the human immunodeficiency virus infection)

Inflammatory arteriopathy (e.g., Takayasu's arteritis, giant-cell arteritis, primary angiitis of the central nervous system, polyarteritis nodosa, Behçet's disease, Churg–Strauss syndrome, Köhlmeier–Degos disease, or cerebral amyloid angiopathy)

Genetic or inherited arteriopathy (e.g., Fabry's disease, fibromuscular dysplasia, dolichoectasia, Susac's syndrome, cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy [known as CADASIL], 3' repair exonuclease 1 [known as TREX1] mutation disorders, mitochondrial encephalomyopathy with lactic acidosis and strokelike episodes [known as MELAS], hyperhomocysteinemia, neurofibromatosis type 1)

**Cardiac**

Patent foramen ovale

Congenital heart disease

Infectious and nonbacterial thrombotic endocarditis

Rheumatic valvular heart disease

Cardiac surgery or catheter intervention

Arrhythmia (e.g., atrial fibrillation or sick sinus syndrome)

Cardiac tumors (e.g., atrial myxoma or papillary fibroelastoma)

Recent myocardial infarction

Dilated cardiomyopathy

**Hematologic**

Heparin-induced thrombocytopenia

Hypercoagulable state due to deficiencies in protein S, protein C, or antithrombin-3 or mutations in factor V Leiden or prothrombin G20210A

Acquired hypercoagulable state (e.g., cancer, pregnancy, oral contraceptive use, exposure to such hormonal treatments as anabolic steroids and erythropoietin, nephrotic syndrome, or antiphospholipid antibody syndrome)

Primary hematologic disorders (polycythemia vera, essential thrombocythemia, paroxysmal nocturnal hemoglobinuria, thrombotic thrombocytopenic purpura, leukemia, lymphoma, or multiple myeloma)

\* The frequency of the cause of stroke is in parentheses; data are from Adams et al.<sup>22</sup>