Case Studies Chapter 14: Nervous System Disorders Case Study 1 Mr. Q, age 64 years, developed a severe headache several hours ago that has not responded to acetaminophen. Now his speech is slurred, and his right arm and the right side of his face feel numb. He is very anxious and is transported to the hospital. Mr. Q has a history of smoking and arteriosclerosis, and there is family history of CVA and diabetes. Assessment at the hospital indicated weakness on the right side, including facial asymmetry and a blood pressure of 220/110 Hg mm. A CT scan showed damaged tissue on the left side of the brain, and an angiogram indicated narrowing of the carotid arteries and middle cerebral arteries, with occlusion of the left middle cerebral artery. Discussion Questions Discuss the pathophysiology related to CVA due to thrombus vs. embolus. Describe the stages in the development of an atheroma. (See Cerebrovascular Accidents.) Explain the predisposing factors in this case, and relate Mr. Q’s initial signs to the pathological changes. (See CVA—Pathophysiology; CVA—Signs and Symptoms; CVA—Etiology and Warning Signs of a Stroke.) Discuss the treatments available after first aid for stroke patients and the patient’s prognosis. (See CVA—Treatment.) Case Study 2 Ms. J, a 19-year-old college student, has been living in a dormitory on campus. She began experiencing severe headaches, neck pain, and nuchal rigidity, along with irritability and nausea. She noticed that when lying with her hips flexed, she found it very hard to stretch out her legs. Within a day her condition deteriorated, she experienced a tonic-clonic seizure, and she was quickly admitted to the hospital. Tests revealed increased intracranial pressure, fever, and leukocytosis. Bacterial meningitis was suspected, and a lumbar puncture was scheduled. Discussion Questions Describe the pathophysiologic changes associated with bacterial meningitis. (See Meningitis—Signs and Symptoms.) Discuss the causes of meningitis and select the microbe most likely to be the cause in this case. Discuss the transmission of bacterial meningitis and recommendations to protect other students and family. (See Meningitis—Pathophysiology, Etiology.) Discuss the diagnostic tests available for identifying meningitis. (See Diagnostic Tests.) What are the likely characteristics of the CSF to be found in this case? Explain the rationale for each manifestation present at this stage. Which manifestation(s) is (are) most significant in the diagnosis of bacterial meningitis? Why are no focal signs present? Which signs indicating elevated intracranial pressure are likely to be present? Discuss the treatments available to help this patient and possible long-term complications. (See Treatment.)