Clinical Manifestations

The signs and symptoms of brain tumors are directly related to their anatomic location and size and to some extent the child's age. For instance, in infants whose sutures are still open, a bulging fontanel indicates hydrocephalus. Head circumference measurements allow for detection of increased head size. Even in older children, clinical manifestations may be nonspecific. However, the most common symptoms of infratentorial brain tumors are headache, especially on awakening, and vomiting that is not related to feeding. Tumors in this area of the brain often obstruct the flow of cerebrospinal fluid, causing increased ICP and the symptoms mentioned earlier. In addition, patients may have symptoms related to the specific structure involved. Tumors of the cerebellum often cause nystagmus, ataxia, dysarthria, and dysmetria. Supratentorial symptoms more commonly include seizures, personality or behavioral changes, visual disturbances, and hemiparesis. Tumors involving the structures of the midbrain, including the hypothalamus and pituitary gland, may cause endocrinopathies, such as diabetes insipidus, delayed or precocious puberty, and growth failure. Table 25-2 presents the common presenting symptoms of brain tumors.

TABLE 25-2

Clinical Manifestations and Assessment of Brain Tumors

Signs and Symptoms	Assessment
Headache	
Recurrent and progressive In frontal or occipital areas Usually dull and throbbing Worse on arising, less during day Intensified by lowering head and straining, such as during bowel movement, coughing, sneezing	Record description of pain, location, severity, and duration. Use pain rating scale to assess severity of pain (see Chapter 5). Note changes in relation to time of day and activity. Observe changes in behavior in infants (e.g., persistent irritability, crying, head rolling).
Vomiting	
With or without nausea or feeding Progressively more projectile More severe in morning upon arising Relieved by moving about and changing position	Record time, amount, and relationship to feeding, nausea, and activity.
Neuromuscular Changes	
Incoordination or clumsiness Loss of balance (e.g., use of wide-based stance, falling, tripping, banging into objects)	Test muscle strength, gait, coordination, and reflexes (see Chapter 4).