

is shown, with effacement of overlying cortical sulci consistent with mass effect. In **B**, T1-weighted image obtained after the intravenous administration of gadolinium DTPA reveals a large serpiginous area of blood-brain barrier disruption consistent with acute inflammation. **C** and **D**. Balo's concentric sclerosis. In **C**, an axial T2-weighted sequence shows multiple areas of abnormal ovoid bright signal in the supratentorial white matter bilaterally; some lesions reveal concentric layers, typical of Balo's concentric sclerosis. In **D**, T1-weighted MR images postgadolinium demonstrate abnormal enhancement of all lesions with some lesions demonstrating concentric ring enhancement.

Balo's concentric sclerosis is another fulminant demyelinating syndrome characterized by concentric brain or spinal cord lesions with alternating spheres of demyelination and remyelination ([Fig. 444-4](#)). For these fulminant demyelinating states, no controlled trials of therapy exist; high-dose glucocorticoids, plasma exchange, and cyclophosphamide have been tried, with uncertain benefit.

ACUTE DISSEMINATED ENCEPHALOMYELITIS (ADEM)

ADEM has a monophasic course and is most frequently associated with an antecedent infection (postinfectious encephalomyelitis); ~5% of ADEM cases follow immunization (postvaccinal encephalomyelitis). ADEM is far more common in children than adults, and many adult cases initially thought to represent ADEM subsequently experience late relapses qualifying as either MS or another chronic inflammatory disorder such as vasculitis, sarcoidosis, or lymphoma. The hallmark of ADEM is the presence of widely scattered foci of perivenular inflammation and demyelination that can involve both white matter and grey matter structures, in contrast to larger confluent white matter lesions typical of MS. In the most explosive form of ADEM, acute hemorrhagic leukoencephalitis, the lesions are vasculitic and hemorrhagic, and the clinical course is devastating.

Postinfectious encephalomyelitis is most frequently associated with the viral exanthems of childhood. Infection with measles virus is the most common antecedent (1 in 1000 cases). Worldwide, measles encephalomyelitis is still common, although use of the live