Case Study 175
Retinoblastoma

RM is a 4-year-old child who was brought in by his mother for a routine prekindergarten examination. He was relatively uncooperative for the fundus examination. Indirect ophthalmoscopy was attempted, but only a fleeting view of either fundus could be obtained. The ophthalmologist justifiably felt that the examination was adequate in an otherwise normal child without specific complaints. He told the mother to bring him back in a year unless there were eye problems. A week later he fell off a chair and struck his head and experienced a brief loss of consciousness. A CT scan was obtained at the emergency room with no head trauma noted, but incidentally a calcified mass was detected in the superior temporal periphery of the left eye. He was referred to a pediatric ophthalmologist for fundus examination. This could not be adequately performed in the office, so an examination under anesthesia was later performed. A solid mass was noted in the superior temporal fundus of the left eye.

Echography demonstrated a solid mass measuring 8.13 mm in thickness and over 11 mm at the base. A- and B-scan both showed medium-to-high internal reflectivity consistent with calcium deposition (Fig. 1). These findings were highly consistent with retinoblastoma. The child was referred to pediatric oncology for management. His mother was very concerned that the primary ophthalmologist had missed the tumor and asked the pediatric ophthalmologist if she should consider legal action.

Leukocoria is a frequent presenting sign of persistent hyperplastic primary vitreous or PHPV. This condition is due to persistence of the fetal hyaloid artery and the presence of retrolental material with a vitreous stalk attaching to the posterior pole. It usually occurs unilaterality in a microphthalmic eye.

Echography is useful in demonstrating the retrolental material, the vitreous stalk, and the microphthalmia.
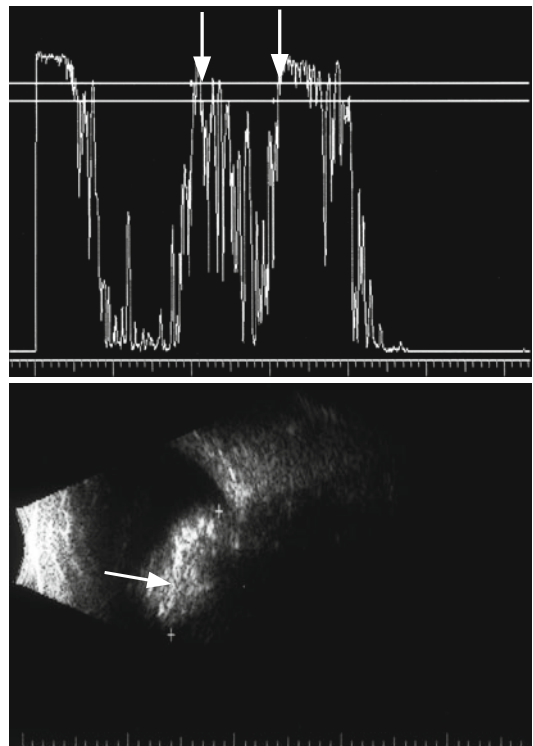

FIG. 1 *Top*: A-scan of retinoblastoma (*vertical arrows*). *Bottom*: B-scan of retinoblastoma (*arrow*)