



**Figure 29-15** Uveal melanoma. **A**, Fundus photograph from an individual with a relatively flat pigmented lesion of the choroid near the optic disc. **B**, Fundus photograph of the same individual several years later; the tumor has grown and has ruptured through the Bruch membrane. **C**, Gross photograph of a choroidal melanoma that has ruptured the Bruch membrane. The overlying retina is detached. **D**, Epithelioid melanoma cells associated with an adverse outcome. (A to C, From Folberg R: Pathology of the Eye—an Interactive CD-ROM Program. Philadelphia, Mosby, 1996.)

## KEY CONCEPTS

- **Uveitis** is restricted to a diverse group of chronic diseases that may be either components of a systemic process or localized to the eye.
- **Sarcoid** is an example of a systemic condition that may produce granulomatous uveitis and sympathetic ophthalmia may produce bilateral granulomatous inflammation as a possible consequence of penetrating injury to one eye.
- The most common intraocular tumor of adults is metastasis to the eye.
- The most common primary intraocular tumor of adults is **uveal melanoma**.
- Uveal melanoma disseminates hematogenously and the first evidence of metastasis is typically detected in the liver.
- Uveal melanoma shows marked differences in epidemiologic risk factors and driver mutations as compared to cutaneous melanoma.

## Retina and Vitreous

### Functional Anatomy

The neurosensory retina, like the optic nerve, is an embryologic derivative of the diencephalon. The retina therefore responds to injury by means of gliosis. As in the brain, there are no lymphatics. The architecture of the retina accounts for the ophthalmoscopic appearance of a variety of ocular disorders. Hemorrhages in the nerve fiber layer of the retina are oriented horizontally and appear as streaks or “flames”; the external retinal layers are oriented perpendicular to the retinal surface, and hemorrhages in these outer layers appear as dots (the tips of cylinders). Exudates tend to accumulate in the outer plexiform layer of the retina, especially in the macula (Fig. 29-16).

The retinal pigment epithelium (RPE), like the retina, is derived embryologically from the primary optic vesicle, an outpouching of the brain. Separation of the neurosensory retina from the RPE defines a *retinal detachment*. The RPE