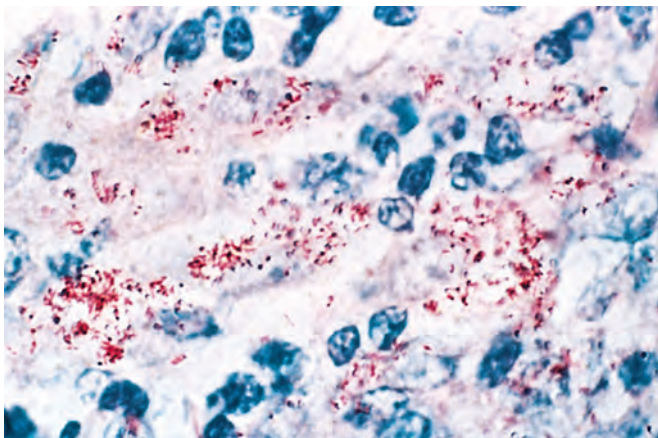


**Figure 8-31** Two types of inflammatory infiltrates common in leprosy are: **A**, dense dermal macrophage infiltration surrounding adnexa, vessels, and nerves (resulting in subcutaneous nodules) and **B**, dense chronic lymphocytic and histiocytic infiltration into large nerve bundles (resulting in mononeuropathy).

**multibacillary.** Macular, papular, or nodular lesions form on the face, ears, wrists, elbows, and knees. With progression, the nodular lesions coalesce to yield a distinctive leonine facies. Most skin lesions are hypoesthetic or anesthetic. Lesions in the nose may cause persistent inflammation and bacilli-laden discharge. The peripheral nerves, particularly the ulnar and peroneal nerves where they approach the skin surface, are symmetrically invaded with mycobacteria, with minimal inflammation. Loss of sensation and trophic changes in the hands and feet follow the nerve lesions. Lymph nodes contain aggregates of bacteria-filled foamy macrophages in the paracortical (T cell) areas and reactive germinal centers. In advanced disease, aggregates of macrophages are also present in the splenic red pulp and the liver. The testes are usually extensively involved, leading to destruction of the seminiferous tubules and consequent sterility.

## Spirochetes

Spirochetes are gram-negative, slender corkscrew-shaped bacteria with axial periplasmic flagella wound around a

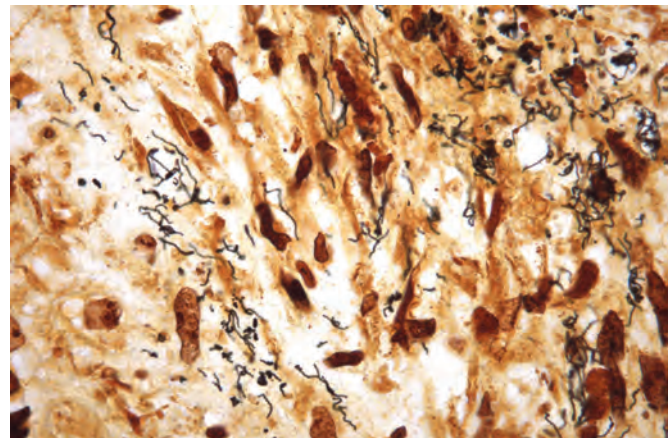


**Figure 8-32** Lepromatous leprosy. Acid-fast bacilli (“red snappers”) within macrophages.

helical protoplasm. The bacteria are covered in a membrane called an outer sheath, which may mask bacterial antigens from the host immune response. *Treponema pallidum* subsp. *pallidum* is the microaerophilic spirochete that causes syphilis, a chronic venereal disease with multiple clinical presentations. Other closely related treponemes cause yaws (*Treponema pallidum* subsp. *pertenue*) and pinta (*Treponema pallidum* subsp. *carateum*).

## Syphilis

**Syphilis is a chronic sexually transmitted disease with varied clinical and pathologic manifestations.** The causative spirochete, *T. pallidum* subsp. *pallidum*, hereafter referred to simply as *T. pallidum*, is too slender to be seen in Gram stain, but it can be visualized by silver stains and immunofluorescence techniques (Fig. 8-33). Transplacental transmission of *T. pallidum* occurs readily, and active disease during pregnancy results in congenital syphilis. *T. pallidum* cannot be grown in culture. Public health programs and penicillin treatment reduced the number of cases of syphilis in the United States from the late 1940s until the 1970s. The number of cases has been relatively



**Figure 8-33** *Treponema pallidum* (Steiner silver stain) showing several spirochetes in histologic sections of placental syphilis.