



Figure 22-4 Acute salpingitis. **A**, Note the dilated tube lumen and edematous tubal plicae expanded by inflammatory cell infiltrates. Pus fills the center of the fallopian tube. **B**, Chronic salpingitis showing scarring and fusion of the plicae. Such scarring may cause infertility or ectopic tubal pregnancy.

surfaces. Therefore, these infections tend to produce more inflammation within the deeper layers of the organs than gonococcal infections.

MORPHOLOGY

Gonococcal infection is characterized by marked acute inflammation of involved mucosal surfaces. Smears of the inflammatory exudate disclose phagocytosed gram-negative diplococci within neutrophils; however, definitive diagnosis requires culture or detection of gonococcal RNA or DNA. If infection spreads, the endometrium is usually spared (for unclear reasons), but within the fallopian tubes, an **acute suppurative salpingitis** ensues (Fig. 22-4A). The tubal mucosa becomes congested and diffusely infiltrated by neutrophils, plasma cells, and lymphocytes, resulting in epithelial injury and sloughing of the plicae. The tubal lumen fills with purulent exudate that may leak out of the fimbriated end. The infection may then spread to the ovary to create a **salpingo-oophoritis**. Collections of pus may accumulate within the ovary and tube (**tubo-ovarian abscesses**) or tubal lumen (**pyosalpinx**) (Fig. 22-4A). With time the infecting organisms may disappear, but the tubal plicae, denuded of epithelium, adhere to one another and slowly fuse in a reparative, scarring process that forms glandlike spaces and blind pouches, referred to as **chronic salpingitis** (Fig. 22-4B). The scarring of the tubal lumen and fimbriae may prevent the uptake and passage of oocytes, leading to infertility or ectopic pregnancy. **Hydrosalpinx**

may also develop as a consequence of the fusion of the fimbriae and the subsequent accumulation of the tubal secretions and tubal distention.

As compared to gonococcal infections, PID caused by staphylococci, streptococci, and the other puerperal invaders tends to show less involvement of the mucosa and the tube lumen, and more inflammation within the deeper tissue layers. These infections often spread throughout the wall to involve the serosa and the broad ligaments, pelvic structures, and peritoneum. Bacteremia is a more frequent complication of streptococcal or staphylococcal PID than of gonococcal infections.

The acute complications of PID include peritonitis and bacteremia, which in turn may result in endocarditis, meningitis, and suppurative arthritis. The chronic sequelae of PID include infertility and tubal obstruction, ectopic pregnancy, pelvic pain, and intestinal obstruction due to adhesions between the bowel and pelvic organs.

In the early stages, gonococcal infections are readily controlled with antibiotics, although penicillin-resistant strains have regrettably emerged. Infections that become walled off in tubo-ovarian abscesses are difficult to eradicate with antibiotics, and it sometimes becomes necessary to remove the organs surgically. Postabortion and postpartum PIDs may also be amenable to treatment with antibiotics, but are far more difficult to control because of the broad spectrum of pathogens that may be involved.

VULVA

Diseases of the vulva in the aggregate constitute only a small fraction of gynecologic practice. Many inflammatory diseases that affect skin elsewhere on the body also occur on the vulva, such as psoriasis, eczema, and allergic dermatitis. Because it is constantly exposed to secretions and moisture, the vulva is more prone to superficial infections than skin elsewhere on the body. Nonspecific vulvitis is

particularly likely to occur in the setting of immunosuppression. Most skin cysts (epidermal inclusion cysts) and skin tumors such as squamous cell carcinoma, basal cell carcinoma and melanoma can also occur in the vulva. Here we discuss relatively specific and common vulvar disorders, including Bartholin cyst, nonneoplastic epithelial disorders, benign exophytic lesions, and tumors of the vulva.