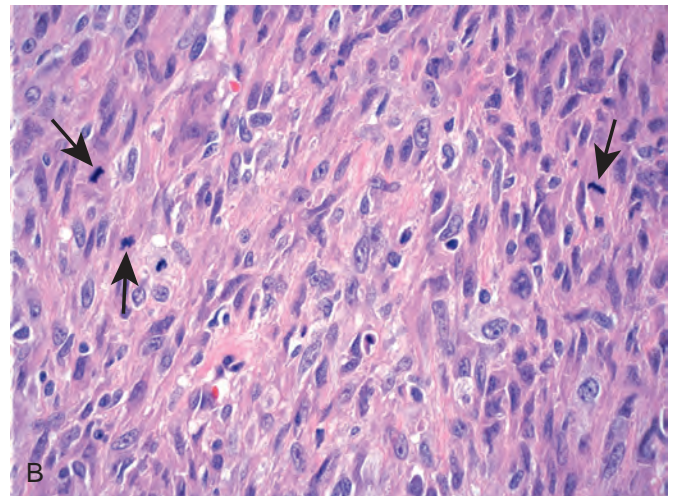


exceptions, the presence of 10 or more mitoses per 10 high-power (400×) fields indicates malignancy, particularly if accompanied by cytologic atypia and/or necrosis. If the tumor contains nuclear atypia or large (epithelioid) cells, five mitoses per 10 high-power (400×) fields are sufficient to justify a diagnosis of malignancy. Rare exceptions include mitotically active leiomyomas in young or pregnant women, and caution should be exercised in interpreting such neoplasms as malignant. A proportion of smooth muscle neoplasms may be impossible to classify and are called smooth muscle tumors of “uncertain malignant potential.”

Leiomyosarcomas occur both before and after menopause, with a peak incidence at 40 to 60 years of age. These tumors often recur following surgery, and more than half eventually metastasize hematogenously to distant organs, such as lungs, bone, and brain. Dissemination throughout the abdominal cavity is also encountered. The overall 5-year survival rate is about 40%, but the anaplastic lesions have a 5-year survival rate of only 10% to 15%.

### KEY CONCEPTS

- Endometrial stromal tumors include stromal nodules, low-grade stromal sarcomas, and high-grade stromal sarcomas.
  - Stromal nodules are benign, well-circumscribed tumors.
  - Low-grade stromal sarcomas resemble stromal nodules, but infiltrate into the surrounding myometrium. They are associated with fusion of the *JAZF1* gene and various polycomb factor genes, usually *SUZ12*.
  - High-grade stromal sarcomas show marked atypia and are associated with other gene fusions.
  - Both low- and high-grade stromal sarcomas are prone to late recurrences.
- Leiomyomas are common benign smooth muscle tumors that cause significant morbidity and are often associated with *MED12* mutations.
- Leiomyosarcomas (malignant smooth muscle tumors) are uncommon, highly malignant myometrial tumors that usually arise de novo



**Figure 22-29** Leiomyosarcoma. **A**, A large hemorrhagic tumor mass distends the lower corpus and is flanked by two leiomyomas. **B**, The tumor cells are irregular in size and have hyperchromatic nuclei. Numerous mitotic figures are present (arrows).

## FALLOPIAN TUBES

The most common disorders affecting the fallopian tube are infections and associated inflammatory conditions, followed in frequency by ectopic (tubal) pregnancy and endometriosis.

### Inflammations

*Suppurative salpingitis* may be caused by any pyogenic organism, and in some cases more than one organism is involved. *Gonococcus* is the causative organism in more than 60% of cases of this disorder, with *Chlamydiae* being responsible for many of the remaining cases. These tubal infections are a part of pelvic inflammatory disease, described earlier in this chapter.

*Tuberculous salpingitis* is rare in the United States, accounting for not more than 1% to 2% of all forms of salpingitis. It is more common, however, in parts of the world where tuberculosis is prevalent and is an important cause of infertility in these areas.

### Tumors and Cysts

The most common primary lesions of the fallopian tube (excluding endometriosis) are minute, 0.1- to 2-cm translucent cysts filled with clear serous fluid, called *paratubal cysts*. Larger varieties are found near the fimbriated end of the tube or in the broad ligaments and are referred to as *hydatids of Morgagni*. These cysts, lined by benign