

Invasive Mole

Invasive mole is defined as a mole that penetrates or even perforates the uterine wall. There is invasion of the myometrium by hydropic chorionic villi, accompanied by proliferation of both cytotrophoblasts and syncytiotrophoblasts. The tumor is locally destructive and may invade parametrial tissue and blood vessels. Hydropic villi may embolize to distant sites, such as lungs and brain, but do not grow in these organs as true metastases, and even without chemotherapy they eventually regress. The tumor is manifested clinically by vaginal bleeding and irregular uterine enlargement. It is always associated with a persistently elevated serum HCG. The tumor responds well to chemotherapy but may result in uterine rupture and necessitate hysterectomy.

Choriocarcinoma

Gestational choriocarcinoma is a malignant neoplasm of trophoblastic cells derived from a previously normal or abnormal pregnancy, such as an extrauterine ectopic pregnancy. Choriocarcinoma is rapidly invasive and metastasizes widely, but once identified responds well to chemotherapy.

Incidence. Gestational choriocarcinoma is an uncommon condition that arises in 1 in 20,000 to 30,000 pregnancies in the United States. It may be preceded by several conditions; 50% arise in complete hydatidiform moles, 25% in previous abortions, approximately 22% follow normal pregnancies, with the remainder occurring in ectopic pregnancies. Very rarely, a nongestational choriocarcinoma may develop from germ cells in the ovaries or the mediastinum.

MORPHOLOGY

Choriocarcinoma is a soft, fleshy, yellow-white tumor that usually has large pale areas of necrosis and extensive hemorrhage (Fig. 22-55A). Histologically, it does not produce chorionic villi and consists entirely of proliferating syncytiotrophoblasts

and cytotrophoblasts (Fig. 22-55B). Mitoses are abundant and sometimes abnormal. The tumor invades the underlying myometrium, frequently penetrates blood vessels, and in some cases extends out onto the uterine serosa and into adjacent structures.

Clinical Features. Uterine choriocarcinoma usually manifests as irregular vaginal spotting of a bloody, brown fluid. This discharge may appear in the course of an apparently normal pregnancy, after a miscarriage, or after curettage. Sometimes the tumor does not appear until months after these events. This tumor has high propensity for hematogenous spread, and by the time it is discovered, radiographs of the chest and bones may disclose the presence of metastatic lesions. The HCG levels are typically elevated to levels above those encountered in hydatidiform moles, but occasional tumors produce little hormone, and some tumors are so necrotic that HCG levels are low. Widespread metastases are characteristic; the most common sites are the lungs (50%) and vagina (30% to 40%), followed by, in descending order of frequency, the brain, liver, bone and kidney.

The treatment of gestational choriocarcinoma depends on the stage of the tumor and usually consists of evacuation of the contents of the uterus and chemotherapy. The results of chemotherapy are spectacular and result in nearly 100% remission and a high rate of cures. Many of the cured patients have had normal subsequent pregnancies and deliveries. By contrast, nongestational choriocarcinomas that arise outside of the uterus are much more resistant to therapy.

Placental Site Trophoblastic Tumor (PSTT)

PSTTs comprise less than 2% of gestational trophoblastic neoplasms. They are neoplastic proliferations of extravillous trophoblasts, also called *intermediate trophoblasts*. In normal pregnancy, extravillous (intermediate) trophoblasts are found in nonvillous sites such as the implantation site, in islands of cells within the placental parenchyma, and in the placental membranes. Normal extravillous

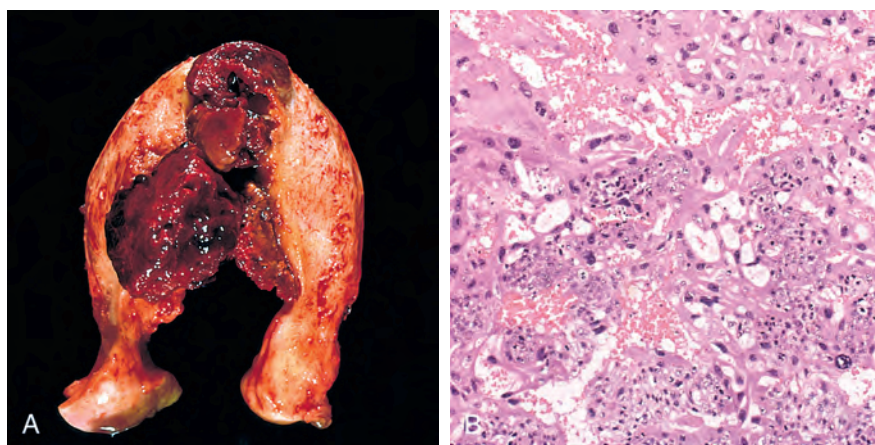


Figure 22-55 Choriocarcinoma. **A**, Choriocarcinoma presenting as a bulky hemorrhagic mass invading the uterine wall. **B**, Photomicrograph illustrating neoplastic cytotrophoblasts and syncytiotrophoblasts. (Courtesy Dr. David R. Genest, Brigham and Women's Hospital, Boston, Mass.)