Gestational Trophoblastic Disease (GTD)

A 29-year-old G5P1A3 female with positive β-hCG presented for an initial dating fetal ultrasound. Ultrasound showed a complex, heterogeneous intrauterine collection and no live pregnancy. She underwent dilation and evacuation with pathology showing a complete mole. Her β-hCG remained elevated and uptrending. She underwent staging CT and repeat dilation and evacuation.

Contrast-enhanced CT of the abdomen and pelvis (A) showed heterogeneous endometrial thickening and enhancement (yellow arrow) and a left adnexal cystic structure (blue arrow) causing mass effect on the normal urinary bladder (red arrow). Initial CT of the chest (B) showed multiple well-defined lung nodules (green arrows). She was treated with methotrexate alternating with leucovorin and β-hCG downtrended. Post-treatment contrast-enhanced CT of the abdomen and pelvis (C) showed resolution of the left adnexal cystic structure and associated mass effect on the bladder (red arrow) and decreased endometrial thickening and enhancement (purple arrow). Follow-up CT of the chest (D) showed decrease in size and near complete resolution of multiple pulmonary nodules compared with pretreatment imaging with a few small residual nodules remaining (orange arrow).

Gestational trophoblastic disease (GTD) is a spectrum of benign and malignant tumors, including hydatidiform mole, invasive mole, choriocarcinoma, placental site trophoblastic tumor, and epithelioid trophoblastic tumor. Those with potential to metastasize are referred to as gestational trophoblastic neoplasia (GTN).1,2

Ultrasound is the primary imaging modality for evaluation and diagnosis of GTD in correlation with clinical findings and β-hCG levels. The role of CT is limited to staging in patients with suspected GTN.1,2 On contrast-enhanced CT, moles are seen as irregular, low-attenuating intrauterine masses with thin enhancing septations.1,2 Enlarged ovaries containing multiple cysts (“spoke-wheel” appearance) are also seen due to gonadotrophin hyperstimulation.1,2 Approximately 30% of patients with GTN have metastases at the time of diagnosis, most commonly to the lungs.1 The most frequent thoracic manifestation of metastatic disease are multiple well-defined, solid lung nodules.1

Nonmetastatic GTN and low-risk metastatic GTN treated with single-agent chemotherapy have cure rates approaching 100%.1 Patients classified as having high-risk metastatic disease treated with multi-agent chemotherapy with or without adjuvant radiation therapy or surgery have cure rates of 80% to 90%.1

REFERENCES