A 32-year-old patient, gravida 2, para 0010, was noted to have a discrepancy in uterine size with dates. At 24 weeks' gestation, her fundal height measured 28 cm. She had previously had a normal pregnancy course and a normal anatomy scan at 19 weeks (Figures 1 and 2). On imaging at 24 weeks' gestation, the fetal brain had an irregular shape, and the midline was deviated to the left side (Figures 3–7). A biparietal diameter of 9.9 cm and head circumference of 35.9 cm were both greater than the 99th percentile.

The differential diagnosis was a fetal cranial neoplasm versus an intracranial bleed. Results of platelet antibody tests, obtained to rule out neonatal alloimmune thrombocytopenia, were negative. Options for pregnancy termination including cephalocentesis were discussed, and the patient chose to proceed with the pregnancy expectantly.

At 27 weeks, fetal magnetic resonance imaging (MRI) showed a cranium of $14 \times 11$ cm filled with amorphous soft tissue containing multiple cysts. No identifiable brain tissue could be seen (Figure 8), consistent with a teratoma.

The patient came to labor and delivery with spontaneous onset of preterm labor at 29 weeks. She was admitted at 7 cm dilation. A cephalic presentation was noted. Intrauterine fetal death was noted by abdominal sonography. Cephalocentesis was again offered to allow vaginal delivery, but the patient refused. She spontaneously dilated to 9 cm, and then artificial rupture of membranes was performed. Soon after, vaginal bleeding was noted, and fetal brain tissue began to pass from the vagina, consistent with cranial rupture. Soon thereafter, she had a vaginal delivery of the fetal body. On postmortem examination congenital intracranial teratoma was identified; no other congenital abnormalities were noted.
Congenital Intracranial Teratoma

Figure 1. Normal anatomy scan at 19 weeks 3 days showing an axial view of the fetal head at the level of the biparietal diameter.

Figure 2. Posterior fossa image showing a normal fetal cerebellum.

Figure 3. Fetal profile view showing irregular brain tissue and intracranial fluid.

Figure 4. Brain structure unidentifiable with large amounts of intracranial fluid.

Figure 5. Shift of the midline noted due to the mass effect of the tumor.

Figure 6. Complex solid-cystic appearance of brain tissue; no brain structures can be identified.
Congenital intracranial teratomas represent around 0.5% to 1.9% of all pediatric tumors. They are the most common intracranial fetal tumors, and the mean gestational age at diagnosis is 27 weeks. As our case shows, standard views of the fetal head at the time of an anatomy scan do not rule out this aggressive tumor. Most are identified with sonography, but MRI is very accurate in illustrating the morphologic features of this tumor. Fetuses with intracranial teratomas have the worst prognosis, and no child with such a lesion has long-term survival.

References