Transabdominal collection of amniotic fluid “sludge” and identification of Candida albicans intra-amniotic infection

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Abstract

A G3P2 patient who conceived while using an intrauterine contraceptive device (IUD) presented at 20 weeks of gestation with mild irregular uterine contractions and vaginal bleeding. Sonographic examination at admission showed the presence of dense amniotic fluid “sludge” and a long sonographic uterine cervix (42 mm). To assess the microbiologic significance of amniotic fluid “sludge”, we performed a transabdominal amniocentesis. The procedure was performed under real-time ultrasound, and fluid resembling pus at gross examination was noted. Rapid amniotic fluid analysis showed the presence of a high white blood cell count and structures resembling hyphae. Amniotic fluid cultures were positive for Candida albicans. Treatment was begun with broad-spectrum antibiotics, including Fluconazole, upon the visualization of pus in the “sludge” material because of the presence of hyphae in the Gram stain. Despite treatment, the patient went into spontaneous preterm labor and delivered five days after admission. Placental examination revealed acute fungal histologic chorioamnionitis and funisitis. This represents the first report of transabdominal collection and analysis of amniotic fluid “sludge” and the microbiologic detection of Candida albicans in this material. This report provides evidence that transabdominal retrieval of “sludge” is possible and may be of significant value for patient management and selection of antimicrobial agents.

Keywords:

Amniocentesis, intrauterine contraceptive device, microbial invasion of the amniotic cavity, intra-amniotic infection/inflammation, biofilms, spontaneous preterm labor, preterm prelabor rupture of the membranes, transvaginal ultrasound, chorioamnionitis, funisitis