Alobar holoprosencephaly detected in a 9-week embryo

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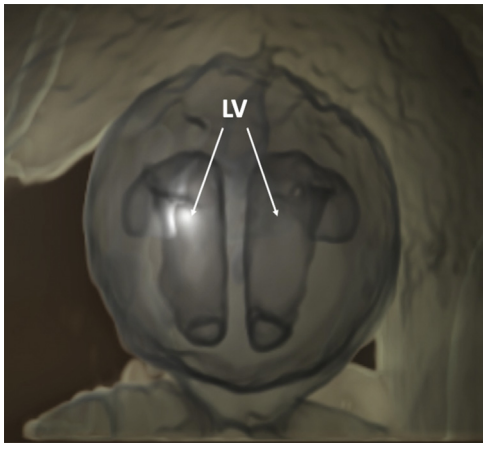
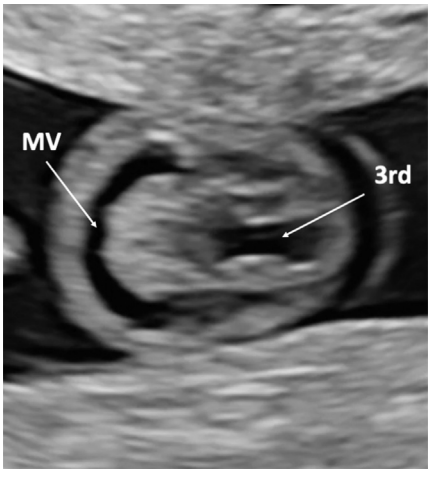
FIGURE 1
Normal 9-week embryo demonstrating normal lateral cerebral ventricles with 3-dimensional ultrasound, transparency mode



LV, lateral ventricles.

Meagher. Holoprosencephaly at 9 weeks. Am J Obstet Gynecol 2019.

FIGURE 2
Abnormal 9-week embryo with holoprosencephaly demonstrating anterior monoventricle and third ventricle on 2-dimensional ultrasound



MV, anterior monoventricle; *3rd,* third ventricle.

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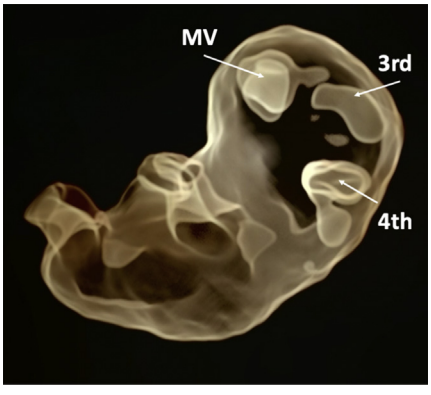
A 37-year-old woman with a spontaneous pregnancy presented for routine early ultrasound. Transvaginal scanning demonstrated a single live embryo with a crown–rump length of 25 mm, equivalent to 9 weeks' gestation. In normal embryos, lateral cerebral ventricles are visible by 9 weeks (Figure 1). In this patient, a single anterior cerebral monoventricle (MV) was detected on 2-dimensional ultrasound (Figure 2). Three-dimensional ultrasound (Figure 3) with volume-rendered imaging of the ventricular system (Figure 4) confirmed alobar holoprosencephaly. Postaxial polydactyly was also evident. Repeat ultrasound 10 days later confirmed these findings, plus a new diagnosis of omphalocele.

The patient proceeded to termination of pregnancy at 11 weeks' gestation. Karyotype of the products of conception confirmed the suspected diagnosis of trisomy 13. Advances in

FIGURE 3
Three-dimensional volume-rendered image of cerebral ventricles in embryo with holoprosencephaly



MV, anterior monoventricle; *3rd,* third ventricle in communication with the Aqueduct of Sylvius; *4th,* fourth ventricle.

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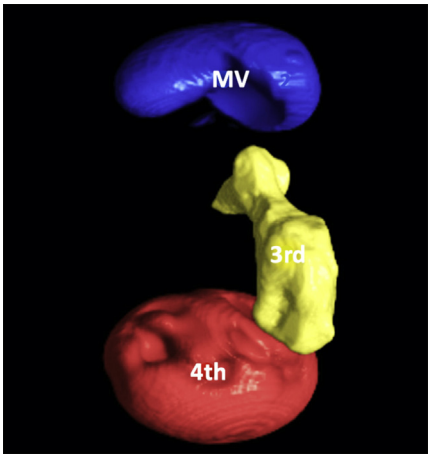
FIGURE 4
Three-dimensional digital cast of holoprosencephaly using virtual organ computer-aided analysis



MV, anterior monoventricle; *3rd,* third ventricle in communication with the Aqueduct of Sylvius; *4th,* fourth ventricle.

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fetal imaging now enable early detection of brain malformations, even prior to 10 weeks' gestation, and provide useful images to aid patient counseling. ■