

Teaching NeuroImage: Intraventricular Fetus-in-Fetu With Extensive De Novo Gain in Genetic Copy Number

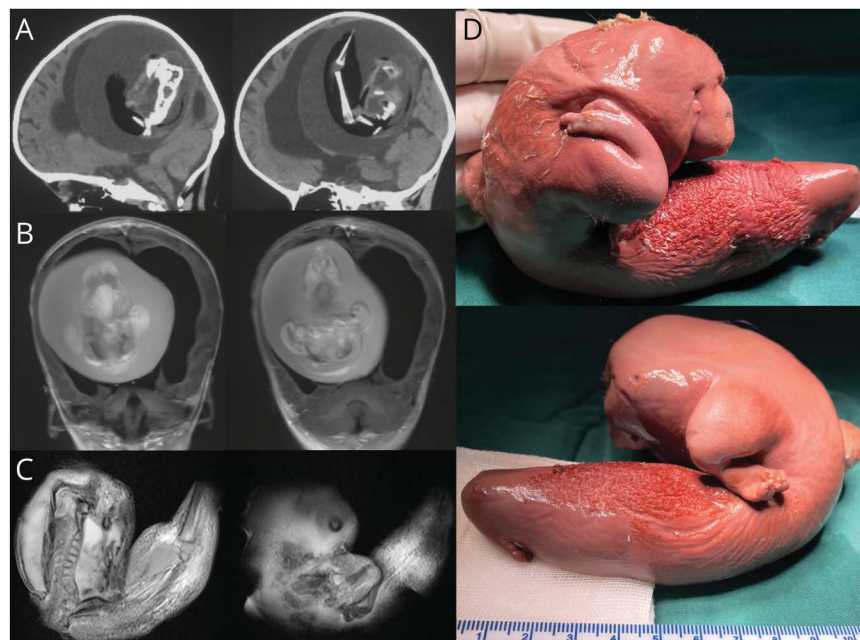
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Figure 1 Imaging of Fetus-in-Fetu



Head CT (A) and T1-weighted image (B) of an infant showing hydrocephalus, compressed brain, and intraventricular mass with vertebral column, femur, and tibia. T1-weighted image of the mass revealing spinal bifida (C). The fetiform mass with upper limb and finger-like buds (D).

An intraventricular fetus-in-fetu, a malformed monozygotic diamniotic twin, was identified in a 1-year-old girl with motor delay and enlarged head circumference (Figure 1). After surgical removal, whole-genome sequencing revealed identical single-nucleotide variants in the host child and fetus-in-fetu, with extensive de novo copy number gains in the fetus-in-fetu (Figure 2, eMethods, links.lww.com/WNL/C529), suggesting the significance of copy number variation during embryogenesis.

The intracranial fetus-in-fetu is proposed to arise from unseparated blastocysts. The conjoined parts develop into the forebrain of host fetus and envelop the other embryo during neural plate folding.¹ Fetus-in-fetu can be distinguished from teratomas based on the younger age of presenting patients and the presence of vertebrae or internal organs.²

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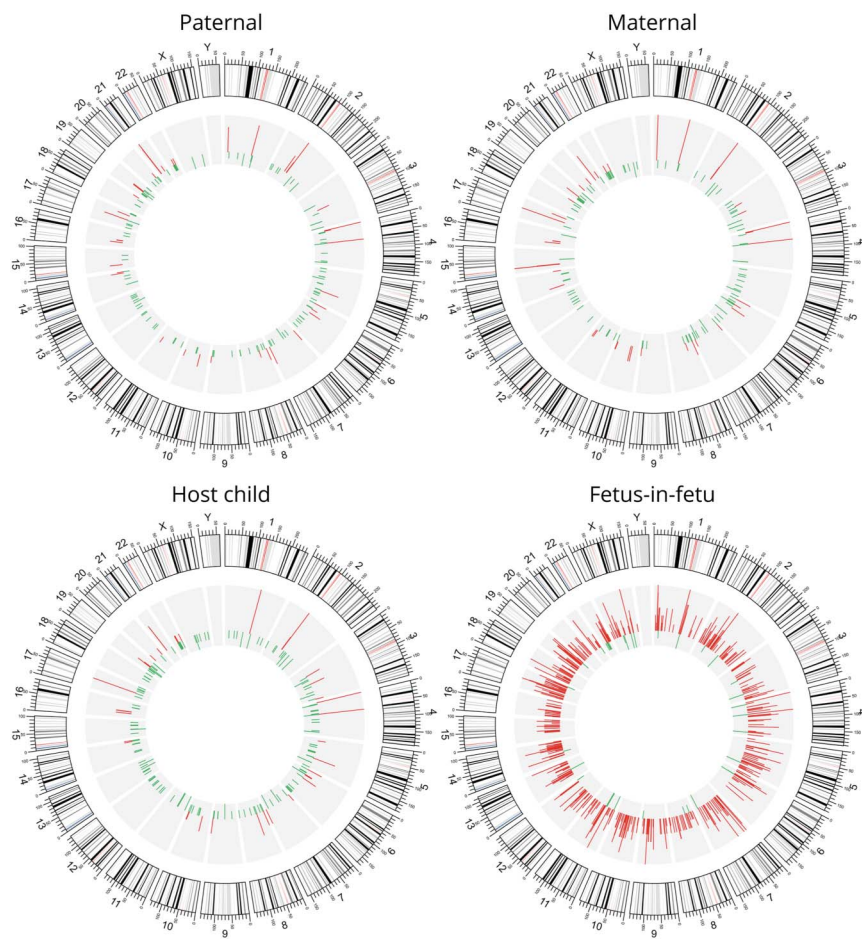
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Figure 2 Copy Number Duplication in Fetus-in-Fetu



Author Contributions

Z. Li: drafting/revision of the manuscript for content, including medical writing for content. L. Ma: study concept or design; analysis or interpretation of data. Y. Zhao: major role in the acquisition of data; study concept or design. C. Li: major role in the acquisition of data; Study concept or design.

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Disclosure

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