RESIDENT & FELLOW SECTION

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

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Neurology® 2023;100:444-445. doi:10.1212/WNL.0000000000201578

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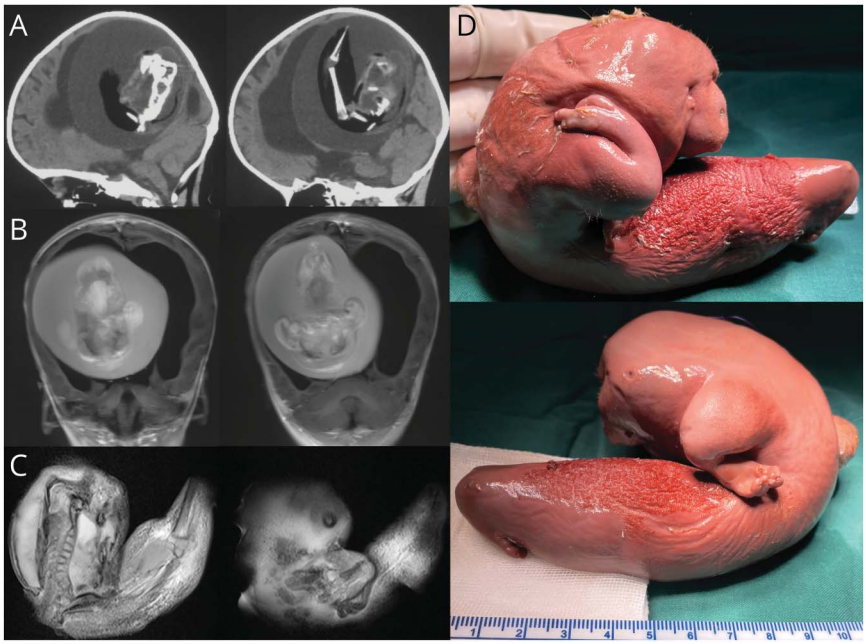
Figure 1 Imaging of Fetus-in-Fetu



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 monochorionic 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]

MORE ONLINE

Teaching Slides
links.lww.com/WNL/C530

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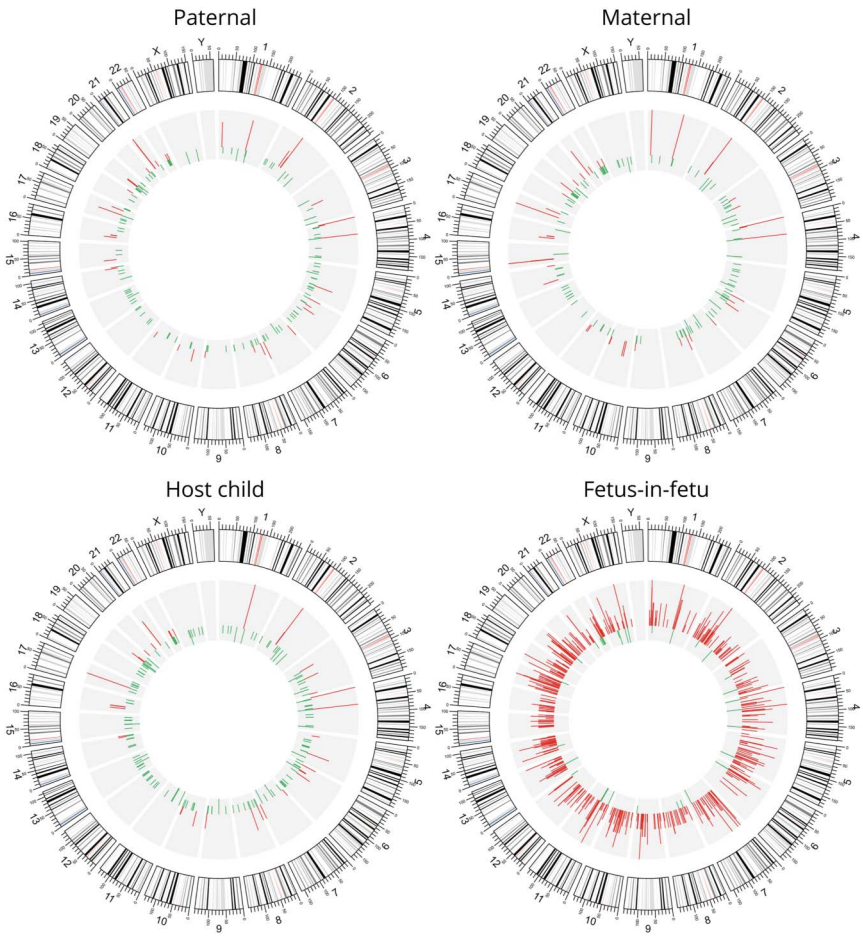
Figure 2 Copy Number Duplication in Fetus-in-Fetu



Red bands indicating copy number gain.

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.

Study Funding

This project was supported by the National Natural Science Foundation of China (81801140 to Dr Ma and 81571110, 81771234 to Dr Zhao).

Disclosure

The authors report no relevant disclosures. Go to Neurology.org/N for full disclosures.

Publication History

Received by *Neurology* June 17, 2022. Accepted in final form October 6, 2022. Submitted and externally peer reviewed. The handling editor was Resident and Fellow Section Editor Whitley Aamodt, MD, MPH.

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Neurology 2023;100;444-445 Published Online before print December 12, 2022
DOI 10.1212/WNL.0000000000201578