Neonatal Fever with Hepatomegaly and a Rapidly Involuting Congenital Hemangioma

A 12-day-old boy was brought to our tertiary neonatal intensive care unit with fever and hepatomegaly. He was vaginally delivered at 40 weeks of gestation, weighing 3690 g. At 4 days of age, he developed a fever of 38.0°C, and a blood test showed a C-reactive protein of 3.4 mg/dL. Despite treatment with broad-spectrum antibiotics, the fever persisted, and computed tomography revealed a large hepatic tumor, suggesting the possibility of a hepatic abscess.

On admission, his white blood cell count was 19 600/μL, C-reactive protein 12.5 mg/dL, normal liver enzymes and coagulation, and alpha-fetoprotein 4530 ng/mL. Ultrasonography scan showed a liver mass with a central heterogenous hypoechoic area indicating necrosis with superficial hypervascularity (**Figure**, A). Contrast-enhanced computed tomography revealed a nonenhanced low-density area with peripheral enhancement from the hepatic artery (**Figure**, B). Magnetic resonance imaging showed a central necrotic lesion with hyperintensity on T2-weighed sequences and low intensity on T1-weighted sequences. The surrounding T2-low areas indicated intratumor hemorrhage (**Figure**, C).

The patient was diagnosed with a congenital hepatic hemangioma. Necrosis or hemorrhage of the hemangioma was suspected to be the cause of fever, and intravenous antibiotic administration was discontinued at 15 days of age. The fever then subsided and the hepatic tumor involuted rapidly. Ultrasonography at 8 months of age showed a small calcified remnant (**Figure**, D).

Congenital hemangioma is a rare benign vascular tumor that is fully formed at birth and then involutes in early

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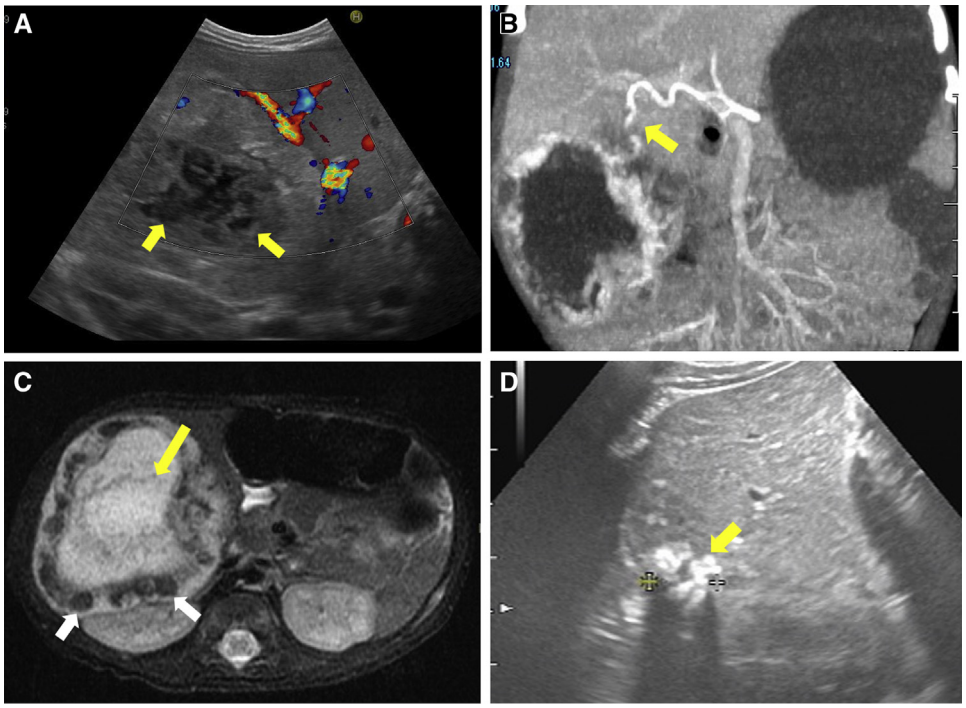

Figure. **A,** Ultrasound scan showed peripheral hypervascularity and central heterogenous low echo area indicating necrosis (*arrows*). **B,** Enhanced computed tomography revealed a large tumor that was supplied blood from the hepatic artery (*arrow*). **C,** Fat suppression T2 axial fast-spin echo magnetic resonance image. The surrounding T2 low lesions indicated hemorrhage (*white arrows*) and intra high T2 lesions indicated necrosis (*yellow arrow*). **D,** Ultrasonography scan showed a small calcified remnant at the follow-up (*arrow*).

infancy, whereas infantile hemangiomas grow after birth then involute slowly.[1] Congenital hemangioma shows 3 distinct patterns: rapidly involuting congenital hemangioma, noninvoluting congenital hemangioma, and partially involuting congenital hemangioma.[2]

There are reports of prolonged fever in hepatic hemangioma among adults.[3,4] These reports described the mechanism of fever to be the result of the release of endogenous pyrogens from necrosis or hemorrhage within the tumor. Peripartum intratumoral bleeding and thrombus formation is common due to the sudden shift from fetal to postnatal blood flow.[2] Most cases of congenital hepatic hemangioma require no treatment, whereas symptomatic lesions with congestive heart failure, anemia, abdominal compartment syndrome, or fulminant hepatic failure will require active treatment.[5,6] ■

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