Congenital Diaphragmatic Hernia

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During a prenatal ultrasonography examination late in the second trimester, a fetus was found to have a right diaphragmatic hernia (Figure S1). Multidepartment dynamic monitoring was instituted, and the fetus was later successfully delivered by cesarean section after fetal distress became evident. After intubation, the infant was stabilized and transferred to the Department of Neonatology at our hospital.

The enhanced computed tomography of the chest and stomach displayed multiple air-filled intestinal shadows in the right chest cavity, the widest being about 20.0 mm. The right lung, mediastinum, and heart were compressed and displaced, and most of the lung tissue in the right lung was consolidated. Atelectasis is evident in the irregular enhancement shadow at the right upper abdomen, about 43.5 × 32.0 mm in size. The boundary between some sections and the posterior margin of the right lobe of the liver was unclear, but the blood supply (hepatic artery and portal vein branches) was visible (Figure). Blood gases, routine bloodwork, liver and kidney function, and myocardial enzymes were essentially normal.

At 40 + 4 weeks, with the infant under total anesthesia, hernia repair was performed. The liver and intestines in the thoracic cavity were brought back into the abdominal cavity; the tissues around the hernia ring in the diaphragm were carefully dissociated; and patch repair and suturing were performed (Figures S2–S4). After the operation, the infant's vital signs were stable and their condition remained good during follow-up.

Congenital diaphragmatic hernia (CDH) is a potentially fatal birth defect[1-3]. In China today, all pregnant women undergo ultrasonography to uncover pregnancy- related conditions[4]. A "green channel" – that is, a multidepartment collaborative for the emergency treatment of perioperative pulmonary hypertension, pulmonary dysplasia, and other complications in newborns with CDH – has been established, helping to assure the best prognosis for those infants.

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Contributors

H H searched the literature, collected the clinical data and wrote the paper. X J wrote the paper, reviewed and edited the manuscript. X D and L Z collected the clinical data. Y X collected the clinical data and supervised the writing the paper. Written consent from the patient's mother for publication was obtained.

Declaration of interests

We declare no competing interests

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Figure: Postnatal-enhanced computed tomography of chest and stomach. (A) The liver and right kidney are seen to be displaced upward and the heart shifted to the left. (B) Three-dimensional imaging reveals an intestinal shadow in the right chest.