THE IMPORTANCE OF PLACENTAL HISTOPATHOLOGY IN IDENTIFYING CONGENITAL ACUTE MYELOID LEUKAEMIA

Dr Hilary Dorward & Dr Uchechukwu Ijeneme
Fiona Stanley Hospital, South Metropolitan Health Service, Perth Western Australia

Background: Congenitally acquired acute myeloid leukemia (CAML) diagnosed within the first 28 days of life is rare, with a reported incidence of 1-5 per million live births [1]. Despite only making up for less than 1% of all childhood leukaemia, it carries a significant burden of disease and dismal two-year survival rates of approximately 25%, hence early diagnosis is key.

Case Description: 31-year-old G1P0 with mild polyhydramnios, a history of delta thalassemia with no first trimester NIPT screening in pregnancy was induced for a week-long history of reduced movement and an abnormal CTG at 37+6 weeks gestation. Intrapartum, the CTG showed cyclical reduced variability with return upon scalp stimulation and occasional decelerations. A decision was made to expedite delivery for the abnormal CTG in the second stage of labour via a forceps delivery. The baby was born with APGARS 8, 8 required suction and CPAP, admitted to neonatal intensive care unit with pore tone and ongoing desaturations.

The delivery was complicated by a 1500mL PPH and retained placenta requiring manual removal in the operating theatre. The placenta was sent for histopathology as it appeared calcified with no whartons jelly on the cord. A pathologist phoned with clinical concern after noting plugging of fetal vessels by myeloid cells indicating possible transient abnormal myelopoiesis and CAML. The baby was subsequently diagnosed with Trisomy 21 complicated by CAML as well as VSD/ASD/PDA and transferred to paediatric oncology for ongoing care.

Discussion: This case highlights the importance of following up on placental histopathology. It shows that such information may not only idenitify risk factors, guide investigations and management for subsequent pregnancies but also in rare cases identify significant medical conditions and have implications on timely treatment for the neonate.

1. Green K, Tandon S, Ahmed M, Toscano W, O'Connor D, Ancliff P, Vora A, Bartram J, Samarasinghe S, Ghorashian S, Pavasovic V, Rao. Congenital acute myeloid leukemia: challenges and lessons. A 15-year experience from the UK. Leukemia and Lymphoma. 2021;62(3):688-695.

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