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Polythelia and congenital heart disease: Imaging insights from a neonatal case

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Case description

A term female neonate weighing 3 kg was born to a third gravida mother via spontaneous vaginal delivery. The antenatal period was uneventful, and the baby had a smooth perinatal transition. At birth, bilateral polythelia (supernumerary nipples) was noted in the inframammary region along the milk line (Figure 1a). Given its reported association with congenital anomalies [1,2], a comprehensive postnatal evaluation was undertaken. The baby remained hemodynamically stable, and no murmur was detected on auscultation. Investigations included 2D echocardiography (ECHO) and ultrasonography (USG) of the urinary system and spine.

The 2D-ECHO revealed a mild variant of Ebstein anomaly, with a mitral-to-tricuspid valve distance of 7.4 mm and a Great Ormond Street Echocardiography (GOSE) score of 0.69 (Figure 1b). A chest X-ray (CXR) was unremarkable, while electrocardiography (ECG) showed right ventricular dominance without rhythm abnormalities (Figure 1c). USG of the renal system and spine ruled out any associated anomalies. The baby was transferred to the neonatal intensive care unit (NICU) for hemodynamic monitoring and potential Prostaglandin E1 infusion.

Supernumerary nipples have been linked to multiple congenital anomalies, predominantly affecting the renal and cardiovascular systems [2]. Cardiac anomalies associated with polythelia include structural defects and conduction disturbances, which can significantly impact neonatal health. Evans, in 1959, first established a strong correlation between polythelia and congenital heart defects, including pulmonary hypertension [3]. Kramer et al., in a prospective study of 1,016 children with congenital heart disease, identified a notable incidence of supernumerary nipples [4]. Polythelia has also been recognised as an important dermatological marker for conduction abnormalities such as bundle branch block and complete heart block [2,5].

This case underscores the necessity of a thorough cardiac evaluation in neonates with polythelia, facilitating early detection of potentially life-threatening congenital heart disease and rhythm disturbances. Further to the best of our knowledge, this is the first image reporting the association of polythelia with Ebstein anomaly. **Citation:** Laha W, Paswal CM, Choudhary S. Polythelia and congenital heart disease: Imaging insights from a neonatal case. J Clin Images Med Case Rep. 2025; 6(5): 3610.



Figure 1: (a) Supine neonate showing supernumerary nipples (yellow arrows), **(b)** 2D-Echocardiograph showing Ebstein anomaly and calculation of GOSE score, **(c)** Electrocardiograph on postnatal day 5 showing right axis deviation with right ventricular dominance pattern.

Declarations

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