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Utility of fetal diagnosis of congenital heart disease in the Japanese countryside

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Objectives: To evaluate the effectiveness of fetal diagnosis of congenital heart disease (CHD) in Japanese countryside which has a limited number of institutions in which pediatric cardiac surgery can be performed.

Methods: We retrospectively examined 202 neonates referred to our institution for cardiac surgery within 14 days after birth. Subjects were divided into groups A (n=44) and B (n=158), before and after the establishment of the fetal echocardiography outpatient clinic (FEOC) in our institution, respectively. We evaluated the fetal diagnosis rate, emergency hospitalization rate, inhospital mortality, and cardiac operative risk evaluation score of each group.

Results: The fetal diagnosis rate of CHD was 20.5 % in group A and 46.8 % in group B. Group B had a significantly lower emergency hospitalization rate (22.7 % vs 8.9 %, p=0.018).There is no significant difference in in-hospital mortality between the groups (13.6% vs 13.9%), despite group B had a significantly higher cardiac operative risk evaluation score (1.03 ± 0.10 vs 1.43 ± 0.05, p=0.0004).

Conclusions: Fetal diagnosis rate of CHD had been increased after the establishment of FEOC. Fetal diagnosis of CHD is effective for decreasing the emergency hospitalization rate and inhospital mortality of neonates who need high risk cardiac surgery.