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Prenatal diagnosis of major congenital heart disease is associated with increased mortality

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Introduction: We conducted a nationwide, retrospective study to assess the consequence of prenatal diagnosis of a major CHD on mortality and morbidity.

Methods: In a nationwide study running from 1996 to 2013, we included 2695 terminated pregnancies (TOP) and live-born children diagnosed with a major CHD. From 2004 prenatal screening was universally offered to pregnant women in Denmark.

Results: 17.5% of fetuses with major CHD were terminated, 0.6% in 1996 increasing to 39.1% in 2013 ($p<0.0001$). The highest TOP rate was found in UVH where 86.5% were terminated in 2013. All-cause as well as cardiac 30-day and 1-year mortality rates decreased throughout the study ($p<0.0001$). The highest rates were found in patients with UVH where 52.6% of live-born children died within the first year of life. Detection rates increased from 4.5% in 1996 to 71.0% in 2013 ($p<0.0001$). There was increased all-cause and cardiac mortality in live-born children whose CHD had been diagnosed prenatally with a hazard ratio of 2.23 ($p<0.0001$) and 2.04 ($p<0.0001$), respectively. After the introduction of general screening, the hazard ratio for cardiac death was no longer statistically significant (HR 0.91, $p=0.5648$). The children diagnosed prenatally had longer length of stay and higher occurrence of kidney failure ($p=0.0112$) and respiratory insufficiency ($p=0.0061$).

Conclusion: Prenatal diagnosis is associated with worse prognosis. This may be caused by selection bias as severe cases are more easily detected and the value of prenatal diagnosis may be difficult to demonstrate due to improvements in the detection of major CHD after birth.

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