Automated quantitative tests for NT-proBNP and interleukin 1 receptor-like 1 (IL-1 RL1) can identify high-risk congenital heart disease (CHD) in newborns, according to a study published in JAMA Network Open.

Henning Clausen, M.D., from Lund University in Sweden, and colleagues examined the performance of two diagnostic tests using minimal amounts of dried blood spots (DBS) to identify high-risk CHD in a Swedish cohort of neonates. Automated quantitative tests for NT-proBNP and IL-1 RL1 (formerly known as soluble ST2) were compared against established CHD screening methods among 313 newborns.

The DBS samples analyzed included 217 CHD cases and 96 controls; of the CHD cases, 89.3% (188 cases) were high-risk types, of which 38.8% (73 cases) were suspected prenatally. The researchers found that 94 (50.0%) of the high-risk cases passed pulse oximetry screening and 36 (19.1%) were discharged after birth without diagnoses. Compared with existing screening methods, combining NT-proBNP and IL-1 RL1 tests performed well, enabling additional identification of asymptomatic babies, with a receiver operating characteristic area under the curve of 0.95.

"Tests were accurate and performed well in differentiating healthy controls from high-risk CHD cases," the authors write. "This warrants prospective evaluation to improve early diagnosis of CHD in this vulnerable population of newborns."

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