

学位論文審査結果の要旨

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(学位論文審査結果の要旨)			
School electrocardiography screening program prompts the detection of otherwise unrecognized atrial septal defect in children in Japan			
【主論文審査結果の要旨】			
著者らは論文において以下の内容を述べている。			
Background: Atrial septal defect (ASD) is a congenital heart disease that often presents without symptoms or murmurs. If left untreated, children with ASD can develop comorbidities in adulthood. In Japan, school electrocardiography (ECG) screening has been implemented for all 1st, 7th, and 10th graders. However, the impact of this program in detecting children with ASD is unknown.			
Methods: This is a retrospective study that analyzed consecutive patients with ASD who underwent catheterization for surgical or catheter closure at ≤18 years of age during 2009–2019 at a tertiary referral center in Japan.			
Results: Of the overall 116 patients with ASD (median age: 3.0 years of age at diagnosis and 8.9 years at catheterization), 43 (37%) were prompted by the ECG screening (Screening group), while the remaining 73 (63%) were by other findings (Non-screening group). Of the 49 patients diagnosed at ≥6 years of age, 43 (88%) were prompted by the ECG screening, with the 3 corresponding peaks of the number of patients at diagnosis. Compared with the Non-screening group, the screening group exhibited similar levels of hemodynamic parameters but had a lower proportion of audible heart murmur, which were mainly prompted by the health care and health checkups in infancy or preschool period. Patients positive for a composite parameter (rsR' type of iRBBB, inverted T in V4, or ST depression in the aVF lead) accounted for 79% of the screening group at catheterization, each of which was correlated with hemodynamic parameters in the overall patients.			
Conclusions: The present study shows that school ECG screening detects			

otherwise unrecognized ASD, which prompted the diagnosis of the majority of patients at school age and >one-third of overall patients in Japan. These findings suggest that ECG screening program could be an effective strategy for detecting hemodynamically significant ASD in students, who are asymptomatic and murmurless.

以上、本論文は、心電図検査を含む学校心臓検診は、無症候性で心雑音はないが、血行動態学的に有意な心房中隔欠損症患者を発見するために効果的な戦略であることを示した論文であり、学術上極めて有益であり、学位論文として価値あるものと認めた。

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