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Infections in early life and premature acute coronary syndrome: A case-control study

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Background: Infections in young children may affect the vasculature and initiate early atherosclerosis. Whether infections experienced in childhood play a part in adult clinical cardiovascular disease remains unclear. We investigated the association between infections in early life and the occurrence of premature coronary heart disease.

Methods: We conducted a population-based case-control study of 153 patients with a first acute coronary syndrome before the age of 56 years and 153 age- and sex-matched controls. Any history of severe infections in childhood and adolescence was obtained, together with clinical and laboratory measurements and other cardiovascular risk factors. We developed an infection score for the overall burden of early life infections. Conditional logistic regression was used to assess the associations.

Results: Infections experienced in early life increased the risk of acquiring acute coronary syndrome at a young age with an odds ratio (OR) of 2.67 (95% confidence interval (CI) 1.47–4.83, $p=0.001$). After adjustments for traditional risk factors, lifestyle, dietary patterns, socio-economic status and parental history of cardiovascular events, these associations remained significant and changed only slightly. There was an indication for an interaction between infections in early life and current cardiovascular risk (Framingham Risk Score (FRS); p -interaction $=0.052$). Within participants with a low FRS (<10%), the OR of early life infection for acute coronary syndrome was 1.49 (95% CI 0.72–3.08, $p=0.283$); within participants with an intermediate FRS (10–20%), the OR was 4.35 (95% CI 1.60–11.84, $p=0.004$); and within participants with a high FRS (>20%), the OR was 10.00 (95% CI 1.21–82.51, $p=0.032$).

Conclusion: Infections in early life may partly explain premature coronary heart disease in adulthood and may potentiate traditional cardiovascular risk factor effects.

Biography

Andriany Qanitha was the best graduate for Medical Doctor at Faculty of Medicine, University of Hasanuddin, Indonesia with a perfect GPA 4.0/4.0 in 2008. For that achievement, she was promoted as a Lecturer. In October 2011, she started her PhD research at Cardio-Thoracic Surgery Department, Academic Medical Center, University of Amsterdam, Netherlands with a full scholarship from The Ministry of National Education Republic of Indonesia. She has finished her Master's at University Medical Center Utrecht, Netherlands in 2016. Now, she is writing her PhD dissertation and planning to continue her career as Cardiologist on trainee.

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