

Children With Appendectomy Have Increased Risk of Future Sepsis: Real-world Data in Taiwan

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February 5, 2021

Abstract

Backgrounds Appendectomy is one of the most commonly performed surgeries worldwide. Sepsis is an major etiology of morbidity and mortality in children. Our preliminary research revealed a positive correlation among appendectomy and future risk of sepsis in adults. However, to date, the relationship among appendectomy and future risk of sepsis in children remains unknown. The aim of this research was to investigate the relationship among appendectomy and hazard of future sepsis in children. **Methods** We applied a nationwide population-based cohort to assess whether children who received appendectomy were at increased risk of subsequent sepsis. Overall, 57261 subjects aged below 18 undergoing appendectomy as appendectomy group and 57261 matched controls were identified as non-appendectomy group from the National Health Insurance Research Database in Taiwan. We use propensity score analysis to match age, sex, urbanization level, and parental occupation at the ratio to 1:1. Multiple Cox regression and stratified analyses were used to appraise the adjusted hazard ratio (aHR) for developing sepsis in children. **Results** Children who received appendectomy had a 2.63 times higher risk of developing sepsis than those who did not, and the risk was even higher in children aged under 6 years. Patients with <1 year follow-up showed a 5.64-fold risk of sepsis in the appendectomy cohort. Patients with 1–4 and [?]5 years' follow-up showed a 2.41- and 2.02-times risk of sepsis. **Conclusion** Appendectomy was correlative to a 2.63-fold increased future sepsis risk in children, and the risk in younger patients aged <6 years was even higher. More studies to interpret the possible biological mechanisms of the associations among sepsis and appendectomy are warrant

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