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Streptococcus gallolyticus infection: A neglected marker for colorectal cancer?

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Binti Hamzah, Hairul Aini^c; Bin Shalihin, Mohd Shaiful Ehsan^d; Bin Md Nor, Azmi^e[Save all to author list](#)^a Kulliyah of Medicine, International Islamic University Malaysia, Kuantan Campus, Pahang, Malaysia^b Department of Community Medicine, Kulliyah of Medicine, International Islamic University Malaysia, Kuantan Campus, Pahang, Malaysia^c Department of Basic Medical Sciences, Kulliyah of Medicine, International Islamic University Malaysia, Kuantan Campus, Pahang, Malaysia^d Department of Family Medicine, Kulliyah of Medicine, International Islamic University Malaysia, Kuantan Campus, Pahang, Malaysia[View additional affiliations](#) [Full text options](#) [Export](#) **Abstract**

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Abstract

Background and study aims: Colorectal cancer (CRC) is the second most common cancer in Malaysia and mostly detected at advanced stages due to lack of awareness of CRC symptoms and signs. CRC pathogenesis is multifactorial, and there is ambiguous evidence on association of *Streptococcus gallolyticus* infection with CRC that needs further attention. Thus, a case-control study was conducted to determine whether *S. gallolyticus* infection is a predictor for CRC occurrence among patients attending Sultan Ahmad Shah Medical Centre@IIUM (SASMEC@IIUM). Patients and methods: A total of 33 stool samples from

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patients diagnosed with CRC and 80 from patients without CRC attending surgical clinic of SASMEC@IIUM were collected and analyzed with iFOBT test and PCR assay to detect *S. gallolyticus*. Results: In this study, the proportion of *S. gallolyticus* infection was higher among patients with CRC (48.5%) compared with the control group (20%). Univariate analysis shows that occult blood in stool, *S. gallolyticus* infection and family history were significantly associated with the development of CRC ($P < 0.05$). Using the multivariate logistic regression model, positive stool PCR for *S. gallolyticus* had the lowest relative standard error and almost five times the odds of developing CRC after adjusting other factors (adjusted odds ratio = 4.7, 95% confidence interval = 1.7–12.6, relative standard error = 59.6%). Conclusion: This finding suggests that *S. gallolyticus* infection was the strongest predictor of CRC's development in our study and potentially serves as a predictive marker for early detection of disease progression. © 2023 Pan-Arab Association of Gastroenterology

Author keywords

Case-control study; Colorectal cancer; Multivariate logistic regression; Predictors; Stool PCR; *Streptococcus gallolyticus*

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