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## **CLOSTRIDIODES DIFFICILE INFECTION IN CHILDREN WITH INFLAMMATORY BOWEL DISEASE**

**Hussein Zohni**, Section of Pediatric Gastroenterology, Winnipeg Children's Hospital, Max Rady College of Medicine,; **Wael El Matary**, Section of Pediatric Gastroenterology, Winnipeg Children's Hospital, Max Rady College of Medicine,, Max Rady College of Medicine, Max Rady College of Medicine, Rady Faculty of Health Sciences and Children's Hospital Research Institute; **Abin Chandrakumar**, Section of Pediatric Gastroenterology, Winnipeg Children's Hospital, Max Rady College of Medicine,, Children's Hospital Research Institute of Manitoba

### **Background:**

To investigate the incidence and risk factors associated with *Clostridioides* (previously known as clostridium) *difficile* infection (CDI) in children with IBD in the province of Manitoba.

### **Objective:**

To investigate the incidence and risk factors associated with *Clostridioides difficile* infection (CDI) in children with IBD in the province of Manitoba.

### **Methods:**

Our longitudinal population-based cohort comprised of all children and young adults < 17y diagnosed with IBD in the Canadian province of Manitoba between 2011 and 2019. Diagnosis of CDI was confirmed based on the Triage *C. difficile* immunoassay and polymerase chain reaction assay to detect the presence of toxigenic *C. difficile*. *Fisher's* exact test was used to examine the relationship between categorical variables. *Cox*-regression model was used to estimate the risk of CDI development in IBD patients.

### **Results:**

Among the 261 children with IBD, 20 (7.7%) developed CDI with an incidence rate of 5.04 cases per 1000 person-years and median age at diagnosis of 12.96yr (IQR: 9.33-15.81). There was no difference in the rate of disease development in UC vs. CD patients ( $p=0.46$ ). The incidence rate of CDI among UC and CD patients were 4.16 cases per 1000 person-years and 5.88 cases per 1000 person-years, respectively ( $p=0.46$ ). Compared to children without CDI, those who had CDI were at increased risk of future exposure to systemic corticosteroids (hazard ratio (HR): 4.30; CI: 1.44-12.87) and anti-tumor necrosis factor (TNF) biologics (HR: 3.37; CI: 1.13-10.09).

### **Conclusion:**

Our findings confirm that children with IBD are at a high risk of developing CDI which may predict future escalation of IBD therapy.