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ABSTRACT FORM

Abstract Category: Oral Poster

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Abstract Title: Discrimination and capsular polysaccharide distribution of C. jejuni in enteritis patients and healthy controls in Bangladesh.

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Body of Abstract - (Aim/ Methods/ Results/ Conclusions):

Aims: The main objective of this study was to determine the distribution of various capsular types (CPS) among *Campylobacter jejuni* isolated from enteritis patients and healthy controls in Bangladesh. In addition, we compared the distribution of *C. jejuni* CPS types between Guillain–Barre´ syndrome (GBS) patients, and enteritis patients and controls.

Methods: As a part of Global Enteric Multi-centre Study (GEMS), a systematic case-control study was carried out from 2008 to 2010 in Kumudini Hospital at Mirzapur among children 0-59 months of age living in Mirzapur sub-district, Bangladesh. A total of 367 *C. jejuni* isolated from enteritis patients (n=152) and healthy controls (n=215) were subjected for CPS typing- a newly developed multiplex PCR. In addition, 30 GBS-associated *C. jejuni* strains isolated from GBS patients in Bangladesh were used for comparative study.

Results: A total of 294/397 (74%) *C. jejuni* strains isolated from GBS, enteritis patients and healthy controls were typed with various CPS types. A wide spectrum of 30 different CPS types was identified in enteritis strains; two capsular types HS5/31 complex (n=27, 18%) and HS3 (n=26, 17%) were predominant. In contrast, 33 CPS types were detected in healthy controls strains; the dominant CPS types were HS5/31 (n=40, 18.6%), HS3 (n=24, 11%) and HS4A (n=16, 7%). There was no significant difference for the distribution of CPS types among cases and controls in Bangladesh. In GBS associated *C. jejuni* strains (n=30), the most predominant capsular types identified was HS23/36 (n=10, 33.3%) which was significantly higher compared to enteritis patients (33.3% vs 1.97%, p<0.05) and healthy controls (33.3% vs 2.3%, p<0.05). HS41 (n=6, 20%) and HS19 (n=6, 20%) were also frequently identified in GBS patients but not in enteritis patients and healthy controls.

Conclusion: This is the first report presenting the distribution of CPS types of *C.jejuni* strains from Bangladesh. HS23/36 was significantly associated with GBS, and HS5/31 complex was the most predominant CPS types both in enteritis and healthy controls. As the vaccine is a necessary tool to control the global burden of *C. jejuni* associated diarrhea; therefore, it is an utmost important to study the distribution of CPS types in adult population which may help for the development of a vaccine for practical use.

Key Words:

capsular polysaccharide; *Campylobacter jejuni*, Enteritis patients, Guillain–Barre´ syndrome, multiplex PCR

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