Synergistic interplay between Helicobacter pylori virulence genes and host COX-2 and iNOS enhances the risk of premalignant and malignant lesions

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Background and Aim: H. pylori (Hp) strains vary in their carcinogenic potential. Both host factors and bacterial factors have been postulated to contribute to the variable outcome. Over expression of host COX-2 and iNOS has been implicated in the development of gastric carcinoma. Furthermore, the link between genotypes in relation to COX-2 and iNOS expression and disease status needs to be determined. Therefore the present study addressed to identify Hp-bearing hosts who are at greatest risk of developing precancerous lesions.

Methods: A total of 240 subjects with various gastric disorders were screened. Genotyping based on cagA, cagT, vacA signal region and hrgA genes of Hp was performed using DNA from gastric biopsies. Expression of COX-2 and iNOS was assessed by RT-PCR and immunoblotting. Histological scoring of antral and corpus biopsies for the presence precancerous lesions was done.

Results: The genotype cagA+/cagE+/cagT+/hrgA+/vacA1 showed high prevalence 177 (73.7%). Among which 81.1% had overt gastric disorders whereas 46% subjects had less severe gastric disease. Histology revealed presence of atrophy in 52% vs 18%, IM in 32% vs 9% and dysplasia in 20% vs 4% respectively (Statistically significant at p < 0.01). RT-PCR and immunoblotting data showed high expression patterns of COX-2 and iNOS in overt gastric disorders than with less severe gastrointestinal disorders.

Conclusion: Genotype cagT+ve/hrgA+ve/cagA+ve/cagE+ve/ vacA1+ve and heightened expression levels of COX-2 and iNOS have higher differentiating and predictive value for the development of severe disease manifestations. This suggests that Hp induced gastric inflammatory reaction to be influenced by multiple factors, and probably results from the synergistic effect of bacterial virulence and host factors, which work together in a complex way causing various diseases in the host.

Pediatric Helicobacter pylori gastritis: endoscopic and pathologic analysis

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Background and Aims: Although Helicobacter pylori gastritis is a worldwide problem, the study concerning pediatric patients seems to be rare. The aim of this study was to investigate the characteristics of childhood Helicobacter pylori gastritis by the endoscopic and histopathologic analysis.

Methods: Eighty children with gastritis were enrolled in this study. Forty children were H. pylori positive and another 40 children were H. pylori negative. The endoscopic findings and their histopathologic features were analyzed.

Results: The grade of H. pylori density was positively correlated with the degree of mononuclear cell infiltration (p = 0.039). The mucosal erosion was significantly lower in young age group (<10) than in old age group, especially in H. pylori grade 3 group (p = 0.04). Endoscopical analysis shows 80% of H. pylori positive cases had nodular gastritis. However, only 15% had nodular gastritis in H. pylori negative cases. Endoscopically proven nodular gastritis reveals positive correlation with lymphoid follicles and mononuclear cell infiltration (p < 0.001).

Conclusions: This study reveals that pediatric H. pylori gastritis had remarkable histopathologic reactions (such as mononuclear cell infiltration, lymphoid follicles, mucosal erosion) and endoscopically proven nodular gastritis compared to non-H. pylori gastritis children. The mucosal erosion seems increase significantly in elder age group (>11 years) than younger group (<10 years) of H. pylori positive gastritis children.

Emergence of avian influenza in Bangladesh: factors, consequences and policy options

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Background: Nowadays pandemic influenza is receiving the most attention in the resurgence of infectious diseases as it has emerged as a global threat by causing extensive morbidity and mortality in the world. The continuing threat of avian influenza by risk and preparedness has made the Asian continent more vulnerable where the mechanisms involved in the emergence of influenza virus and the epidemiological factors leading to pandemics are still unpredictable. In this respect the influenza epidemics in Bangladesh due to its agricultural-based communities and highest population density can be spread out more where its demographic, economic and other impacts will be more significant. However, the subsequent risk for generating a pandemic human strain is still unknown. More academic research is needed to understand the factors, possible consequences with appropriate policy options to resist such pandemic influenza.

Objectives: The overall objective of the study is to examine the evolution or transition of pandemic influenza in Bangladesh with emphasis to avain influenza (H5N1) by identifying the factors, consequences and policy alternatives regarding its potential to cause the next pandemic.

Methodology: The proposed study is an explorative activity in nature Therefore various interdisciplinary (public health, sociology, demography, economics, anthropology, history etc) approaches, techniques and methods are expected to be used for this research.

Data and its availability: Available secondary character of data at different levels (e.g. international, national, local or institutions etc) that permits a comprehensive analysis regarding pandemic influenza in Bangladesh is expected to be applied.

Clinic observation and analysis of congenital syphilis (12 cases)

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Congenital syphilis is a chronic contagious disease which caused by mother to baby transmission. As the ascending morbidity of syphilis in these years, the incidence of congenital syphilis increased gradually. In this article data of 12 congenital syphilis cases in our hospital were collected and analysed since 2002. The main manifestations include fever, skin lesion, jaundice and hepatosplenomegaly. In addition, bone abnormality was found in 2 cases, and hematologic damages were exhibited by anemia (5 cases) and by thrombocyte reducing (3 cases). All the cases are in response to penicillin. 3 cases with neurosyphillis have non-differential neural symptoms, and the abnormal cytology, plasma reagin test (RPR) and Treponema pallidum particle