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Helicobacter Pylori; Is there an Association with Infantile Colic?

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Abstract

Introduction

Since the discovery of H.pylori(HP) by Warren and Mershall in 1983(1), a new era of discovery and understanding of gastroduodenal pathology has been opened.Helicobacter pylori infection is a common bacterial infection for humans, and the organism is the most prevalent gastric microbial pathogen. The outcome of chronic HP infection varies from asymptomatic gastritis to peptic ulcerations and gastric malignancies(2). It is currently estimated that half of the world's human population is infected with the gastric pathogen H.pylori. However, the prevalence of H.pylori is not homogenous worldwide: it varies depending on the patient's age, country of origin, ethnic background and socioeconomic conditions during childhood(3). The virulence factors of H.pylori and host genetic factors are both considered important determinants of disease outcome(4) In an attempt to search for the pathogenesis of some infantile disorders that have an unclear etiology, we investigated the potential role of H pylori infection in infantile colic . The cause remains enigmatic, despite its long history and its relatively frequent occurrence. Its prevalence ranged from 5 to 40% depending on the definition and methods used (5,6,7). Possible explanations were suggested; Painful gut contractions, lactose intolerance or social factors (8,9),or high levels of motilin hormone secreted by the small intestinal cells(10) .The prevalence of colic among exclusively breast fed.exclusively formula fed, and both breast-fed and formula-fed infants was 22%,20% and 18% respectively.There was no significant relationship between the source of early infant nutrition and the development of colic(9) .Infantile colic has no clear treatment and its management varies among physicians([11]).

Methods: Approval of the present study was received from the administration of Alemeis National Hospital,Saudi Arabia . Cases were recruited from local tertiary hospital in Gizan Rural District Kingdom of Saudi Arabia from May to September2009 .Cases admitted for routine outpatient clinical care,for vaccination,or for medical services were selected. A questionnaires was administered to mothers of infants 2weeks to 4months of age and included questions about maternal health behaviors,demographic characteristics, and the current source of infant nutrition(whether the infant was exclusively breast fed , exclusively formula fed or fed both breast milk and formula). Standardized measures(the 6-item state scale of the Spielberger State-Trait Anxiety Inventory,the Support Behaviors Inventory,and Anticipatory Guidence) that assessed maternal anxiety,postnatal depression ,and social support were incorporated into the first questionnaire because these constructs have been suspected to play a role in colic"s development (9)); Mothers were also asked to complete a short questionnaire based on the Ames cry score,which is composed of 3 questions,each with its own 4 response categories that are scored from 0 to 3 .This short questionair asks about the frequency,average and maximum duration of an infant's cries during the past week .Overall scores ,calculated by summing the scores of individual items,range from 0-9.with score of 3 or greater indicating colic (12).

Ninety two participant were categorized into **2 groups** and allocations were concealed from participants"parents until after pretesting was complete.Of the 92 participants, 85 completed the study.There were no statistically significant differences in baseline sociodemographics between the 7 participants who dropped out of the study and the 85 participants who completed the study.,There were 55 case infants aged 2weeks to 4months who fulfilled modified Wessel criteria of the infantile colic ,which criteria means that a well, thriving infant cried for 3 hours daily, for more than 3 days every week for more than 3 weeks (4,12,13,14) .excluding other causes of crying . Patient group presented with infantile colic was further subdivided according to the severity of colic to moderate and severe. The severe cases were marked by the watching for signs of continuing distress in the child and family, and the infant is so inconsolable during crying episodes that couldnot be soothed by any medications or feeding (4). The results of a detailed of the infant were recorded to rule out any underlying causes of excessive crying (eg, central nervous system abnormalities, infections, trauma, foreign body in the eye, fractured bone or other gastrointestinal dysfunctions(4). Eligible controls were identified and matched to case infants by country of origin,age,sex,and race. The study controls were identified as having no colic or no history of colic ,and no severe distressing illness or abnormalities.

The case and control groups were investigated for H.pylori using a stool antigen test .This one- step test is a chromatographic immunoassay for the qualitative detection of H.pylori infections(Alcon Laboratories Inc).It is relatively simple reliable ,more applicable,and noninvasive test of H pylori infections in children (15,16). ***Helicobacter pylori*** fecal antigen has shown high degree of sensitivity, specificity, and positive and negative predictive values, so it is most useful for the screening of H.pylori positive patients (16). In this test the membrane is precoated with anti-H.pylori anti,,bodies on the test line region of the test, during testing, the specimen reacts with the particle coated with H.pylori antibodies. The mixture migrates upward on the membrane by capillary action to react with anti-H.pylori antibodies on the membrane and generates a colored line.