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The gastric precancerous cascade

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Abstract

Although most gastric cancers are first detected after the 5th decade of life, they represent the end product of a prolonged precancerous process initiated during childhood as a consequence of the infection of the gastric mucosa with *Helicobacter pylori*. The initial phase of the process consists of active nonatrophic gastritis. The following stages are: intestinal metaplasia, first complete and then incomplete, dysplasia and finally invasive carcinoma. The progression of the lesions is modulated by other factors such as the diet: excessive salt intake accelerates the process while fresh fruits and vegetables play a protective role. Remarkably, the geographic location influences the process. In Colombia, the high altitude Andes mountain dwellers display more advanced lesions than their counterparts of the Pacific coast. It appears that the ancestral origin of the infecting bacteria have a determining influence on their capacity to induce precancerous lesions. The bacteria infecting the mountain dwellers are Amerindian in origin and display a European genotype. Bacteria infecting the Pacific coast dwellers are of Africa origin, less virulent. Chemoprevention trials have been partially effective, when the lesions are not too far advanced. Such trial may not eliminate the infection but have a tendency to eliminate preferentially the most virulent bacteria.

Biography

Pelayo Correa was born in Sonson, Colombia on 3 July 1927. He received his MD in 1949 from the Universidad de Antioquia in Medellin and served on the faculty of the Universidad del Valle School of Medicine in Cali from 1954 until 1970. He was a Visiting Scientist at the US National Cancer Institute from 1970 to 1973, and then joined the faculty of Louisiana State University Medical Center, New Orleans, where he was Professor of Pathology from 1974 through 2005. In 1996 he was designated as a Boyd Professor, the highest academic rank in the LSU System. After retirement from LSU he joined the faculty of Vanderbilt University Medical Center where he continues to do research. Dr. Correa is the founder of the Cancer Registry in Cali, Colombia, the first population-based registry in Latin America, and was a leader in the development of the SEER Louisiana Tumor Registry in New Orleans. He is the author of over 500 publications and is the Principal Investigator of an NCI Program Project on the etiology of gastric cancer, which has been continuously funded since 1980. He has received numerous awards and honors for his seminal contributions to the natural history of gastric carcinogenesis.