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REVIEW ARTICLES

Systematic review of the prevalence of gastric intestinal metaplasia and its area-level association with smoking
Revisi3n sistem3tica de la prevalencia de metaplasia intestinal g3strica y su asociaci3n con el consumo de tabaco

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Abstract

Objectives

We aimed to show an area-level association between the frequency of intestinal metaplasia (IM) in *Helicobacter pylori*-infected patients and tobacco consumption.

Methods

We systematically reviewed the literature to retrieve data on the prevalence of IM in different countries and performed an ecological analysis to quantify the association between the prevalence of IM among infected subjects and smoking, using data on national tobacco availability. Articles evaluating IM in the general population or in dyspeptic patients were identified by a MEDLINE search. We selected one study per country, giving preference to those for which the study design/populations evaluated provided the highest external validity and inter-study comparability of methodology.

Results

This systematic review of published data retrieved information for 29 countries from 5 continents depicting a wide variation in the prevalence of IM among *H. pylori*-infected subjects in different regions, ranging from 3% in Argentina to 55% in New Zealand. In countries exhibiting a simultaneously high prevalence of infection and low incidence of gastric cancer, IM was also relatively infrequent (Thailand, 6%; India, 8.2%; Nigeria, 11.1%; Gambia, 11.8%; Saudi Arabia, 15.5%; Iran, 15.6%; Egypt, 24.4%). A significant correlation was observed between IM prevalence in infected subjects and tobacco availability ($r = 0.45$; $p = 0.02$).

Conclusions

Our results show that the concept of the African and Asian «enigmas» may be extended to precancerous lesions. Tobacco availability was positively associated with the prevalence of IM among *H. pylori*-infected subjects at an area level.

Resumen

Objetivos

Evaluar la asociación entre la frecuencia de metaplasia intestinal (MI) en los sujetos infectados por *Helicobacter pylori* y el consumo de tabaco.

Métodos

Revisión sistemática de la literatura médica para obtener datos de la prevalencia de MI en diferentes países y análisis ecológico para cuantificar la asociación entre prevalencia de MI en los infectados y la disponibilidad de tabaco en cada país. En una búsqueda a través de MEDLINE se identificaron artículos en los que se evalúan casos de MI en la población general o en pacientes dispepticos. Para seleccionar un artículo por cada país, se han elegido aquellos en que el estudio del diseño/población evaluado proporcionaba una mayor validez externa y comparabilidad.

Resultados

Se han seleccionado 22 artículos que contienen datos para 29 países de los 5 continentes, describiendo la gran variabilidad de la prevalencia de MI en los sujetos infectados en los diferentes países, desde el 3% en Argentina hasta el 55% en Nueva Zelanda. En los países que presentaban simultáneamente una prevalencia de infección alta y una incidencia de cáncer gástrico baja, la MI era también relativamente infrecuente (Tailandia, 6%; India, 8,2%; Nigeria, 11,1%; Gambia, 11,8%; Arabia Saudí, 15,5%; Irán, 15,6%; Egipto, 24,4%). Se observó una correlación significativa entre la prevalencia de MI en los infectados y la disponibilidad de tabaco ($r = 0,45$; $p = 0,02$).

Conclusiones

Nuestros resultados muestran que el concepto de «enigmas» africano y asiático se puede extender a las lesiones precancerosas. Desde la perspectiva de un estudio ecológico, la disponibilidad de tabaco se asocia con la prevalencia de MI en los sujetos infectados por *H. pylori*.



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Key words

Intestinal metaplasia; Smoking; *Helicobacter pylori*; Systematic review; Ecological study

Palabras clave

Metaplasia intestinal; Tabaco; *Helicobacter pylori*; Revisión sistemática; Estudio ecológico

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