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The prevalence of Helicobacter pylori positivity in the general population in Sweden has decreased from 38 per cent to 16 per cent since 1989

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Introduction

It is assumed that the prevalence of Helicobacter pylori (H.p.) is decreasing in wealthy countries. There are however no recent prospective population based studies confirming this.

Aims & methods

We aimed to evaluate the prevalence of positive H.p. serology in random population sample in a Swedish community over 23 years, and the study logistics is shown in Figure 1. In 1989 we mailed the validated Abdominal Symptom Questionnaire (ASQ) (1) (age 22-80), and 1097 (87%) responded. H.p. serology (HM-CAPTM immunoassay) was measured on a stratified sample (n=145 with either dyspepsia including reflux, IBS or symptom free) with no statistically significant difference of positive H. Pylori serology: 33%, 33% and 48%, respectively, and overall 38%) (2).

In late 2011 the ASQ was mailed again with the same sampling procedure in the same community (age 20 years and above) and 1175 (64%) replied. A total of 388 out of 1034 participants 20-79 years of age and suitable for an upper endoscopy had an upper endoscopy spring 2012. H.p. serology (H.pylori IgA/IgG ELISA) was measured on 386. Thirtytwo of those had participated also in 1989.

The effect of time on H.p. prevalence was calculated using random effects logistic regression models using H.p. as the dependent variable and gender, age and time as independent variables. All participants in all surveys are included in the analyses (499 participants, 531 observations).

Results

The prevalence of H.p. positive serology in 1989 and 2012 in total and in different age groups for the 499 participants who participated in either or both studies is presented in Figure 2.

The overall H.p. positivity decreased significantly with time (from 38% in 1989 (1) to 16% in 2012), the odds ratio for H.p. positivity corresponded to 0.25 per decade (OR:0.25; 95%CI:0.11-0.59, p=.001), independent of gender and age. There was no difference in H.p. prevalence between men and women (OR:0.92; 95%CI:0.40-2.08). The odds of H.p. positivity increased with age by 11% per year (OR:1.11; 95%CI:1.04-1.18, p=0.001).

Conclusion

In this random sample of the adult general population in Sweden, H.p. prevalence has decreased radically over the last two decades across all ages. Among adults below 40 years it has reached the level where the "test & treat" strategy might be questionable (3). Among adults older than 60 years the risk of sequele due to H.p caused mucosal atrophy (4) is most probably reduced.

References

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Figure 1 The LongGerd project

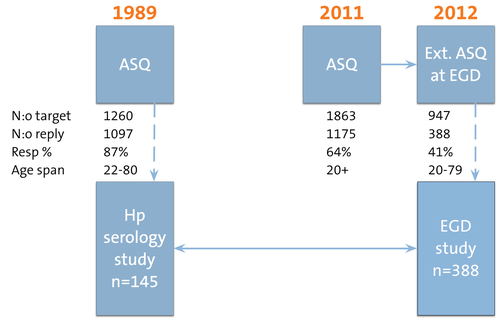
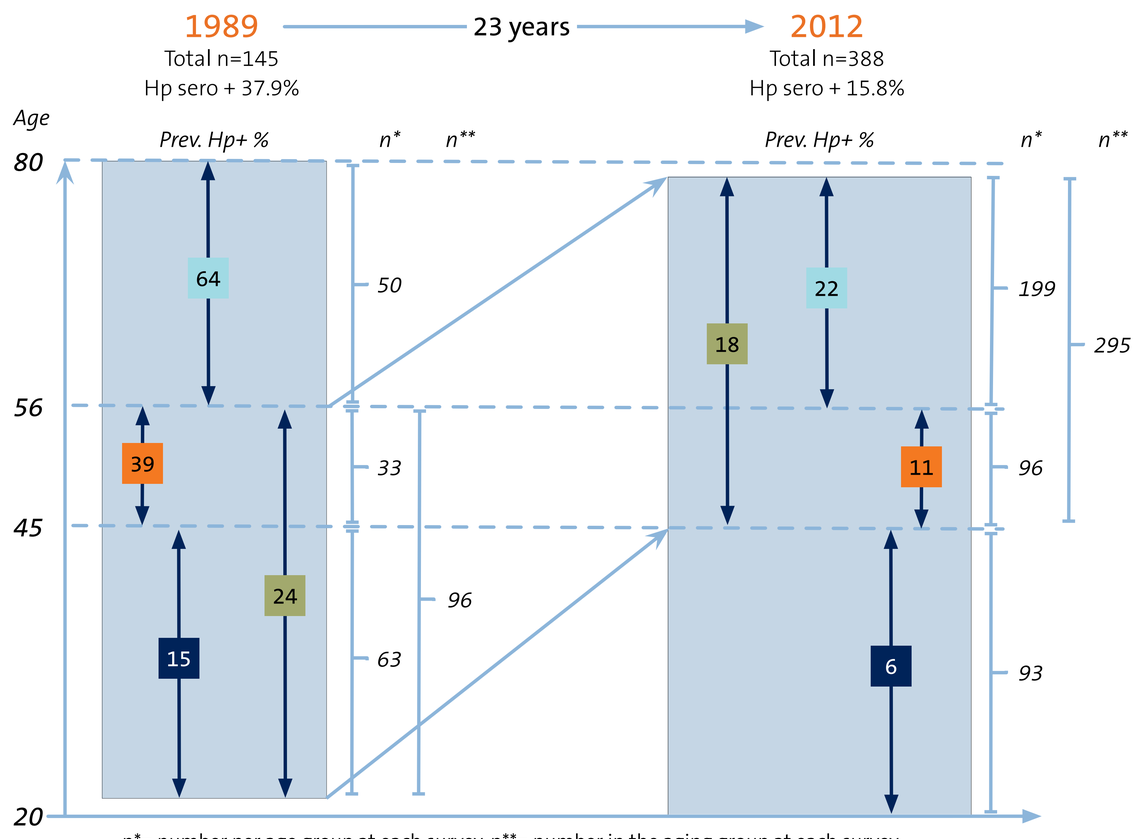


Figure 1
The prospective steps with the postal Abdominal Symptom Questionnaire (ASQ) (1) surveys targeting a random sample of the adults in Östhammar community, Sweden, at two occasion, and subsample studies at the two occasions: the first on H. pylory serology in 1889 and the second (with an upper endoscopy (EGD) on H. pylory serology in 2012.

Figure 2



n*= number per age group at each survey, n**= number in the aging group at each survey

Figure 2
The prevelence of positive H. pylori serology in 1989 and 2012 in three different age groups (20-44, 45-55, 56-80 years of age in 1989, 20-44, 45-55, 56-78 years of age in 2012) marked in respectively ***dark blue,*** ***orange*** and ***aqua***, and in the aging clusters with possible participants in both surveys, marked in ***green***. The number of subjects per age groups is also given.

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