

# Increased prevalence of achlorhydria with age in an Asian population: Should we be screening for achlorhydria in patients aged 50 and over ; 22 years experience from a large hospital

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## Introduction

- Achlorhydria (AC) is a state in which the stomach is unable to produce hydrochloric acid.
- AC can be categorized as either permanent or temporary based on its causes.
- AC can lead to several conditions such as pernicious anemia which can cause irreversible neurological deficits.
- Diagnostic techniques of AC can be easily performed during esophagogastroduodenoscopy (EGD) by staining Congo red on the gastric mucosa.

### Study aim:

To determine the prevalence of AC in Thailand among EGD patients

## Methods

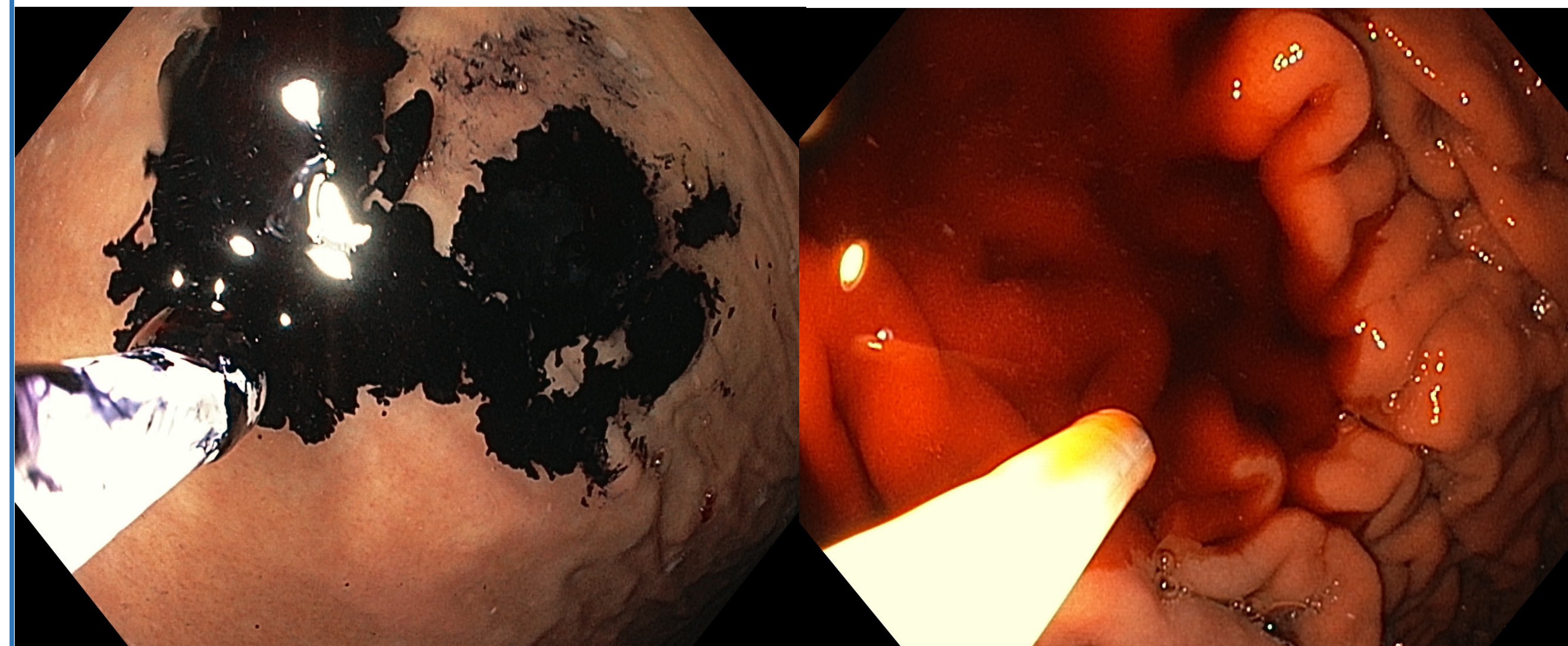
- Large single center retrospective study
- Population: Adult participants who underwent EGD at the Vichaiyut Hospital from January 2010 – December 2019.

## Results

- A total of 3,597 patients underwent EGD including Congo red staining method.
- 18 from 3,374 patients (0.53%) had AC.

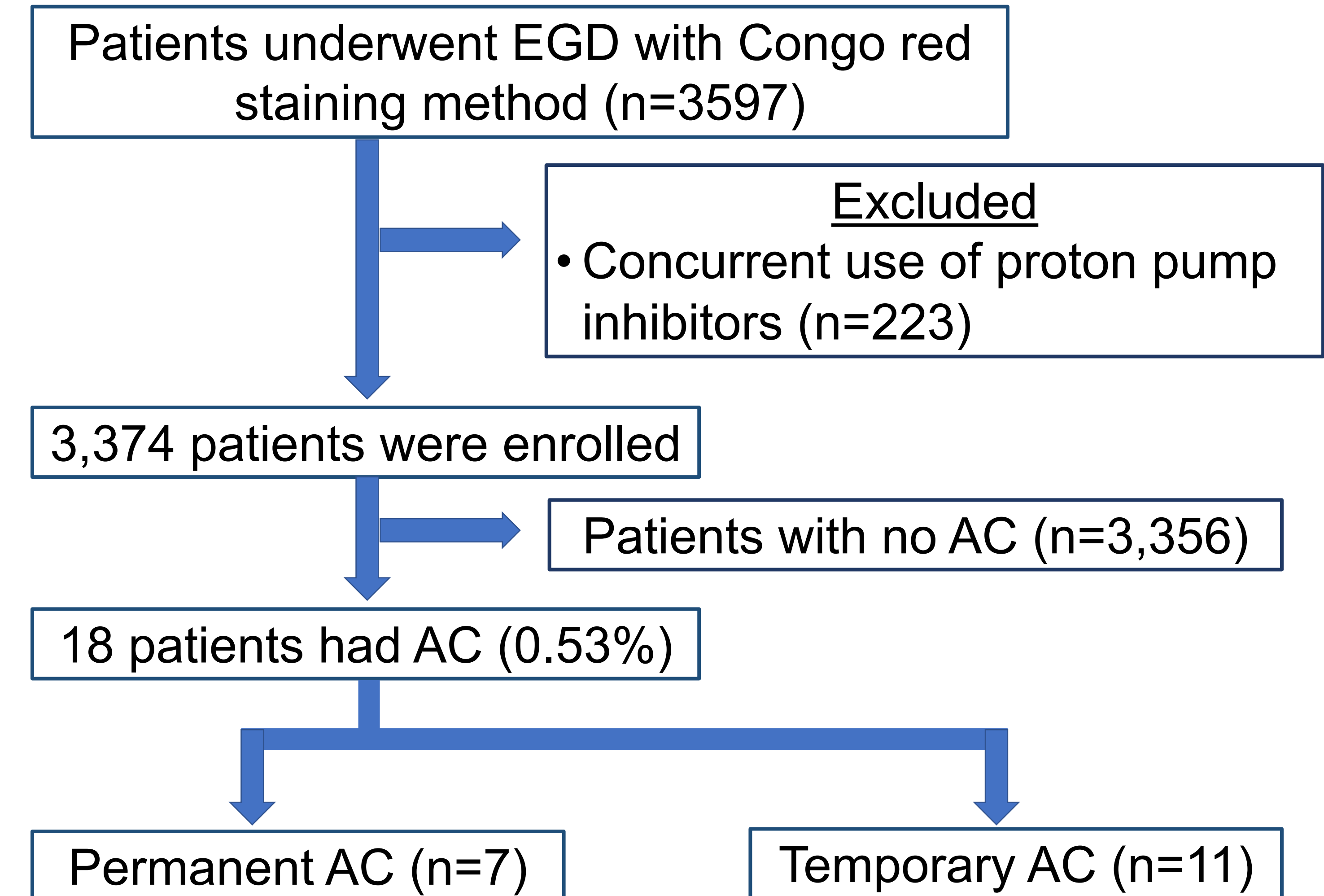
## Results

- All 7 patients presented with permanent AC (5 Female, 2 Male: Median age = 69 years; range 58-92).
- All 7 patients were found to have high levels of serum gastrin (mean = 2,485 pg/ml; S.D. = 689 pg/ml) and were pathologically confirmed with intestinal metaplasia.
- Among 11 patients with temporary AC (5 Male, 6 Female: Mean age = 73.4 years; SD = 13.2 years).
- All 11 patients had H. pylori bacterial infection after being examined.
- After successful treatment for H. pylori and re-examination with Congo red, AC was absent among patients with temporary AC.
- If counting only patients over 45 years of age, the prevalence of AC was 0.68% (18/2,614).
- No adverse events arising from Congo red occurred.



- Congo red changes its color from red to dark blue or black in an acidic environment.

## Results



## Conclusions

- Achlorhydria (AC) is relatively rare. Permanent and temporary AC were found only when they were over 55 and 45 years old, respectively.
- Staining Congo red on gastric mucosa can be safely and routinely incorporated into the EGD procedure for early detection of AC.
- We recommended a low-cost screening test such as serum vitamin B levels for screening only in patients aged 50 and over.

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