OBJECTIVE

To identify potential dietary risk factors for severe gastritis among H. pylori-positive participants

BACKGROUND

- **Helicobacter pylori** infection, a risk factor for gastric cancer, is of growing concern in some northern Canadian communities due to perceived high rates of this cancer.
- **H. pylori** infection induces gastritis, a spectrum of inflammation involved in gastric carcinogenesis.
- Little is known about determinants of gastritis severity.
- The Aklavik H. pylori Project was inspired by community concerns about risks from H. pylori infection in Aklavik, Northwest Territories (population ~600).

METHODS

- In February 2008, we offered Aklavik residents gastroscopy with biopsies taken for pathological assessment.
- We collected risk factor data by interviewer-administered questionnaire.
- In logistic regression models, we estimated prevalence odds ratios (OR) for severe gastritis (vs. mild/moderate) in association with:
  - Relevance foods (coffee, tea, pop, alcohol, fruits & vegetables, smoked/salted meat & fish)
  - Potential confounders (sex, age, education, prior care for stomach complaints, medications taken, symptoms reported)
- Based on our study aims, we included all diet factors in our multivariable model.
- We included other variables in the multivariable model if:
  - The adjusted OR had a p-value <0.25
  - A variable appreciably altered the OR for other factors when included
- The diet variable ‘smoked / salted foods’ was excluded from the multivariable model due to missing data.

RESULTS

- Of 129 participants aged 11-80 years with H. pylori-positive histology, prevalence of gastritis severity levels was:
  - mild (n=11) 0.085
  - moderate (n=62) 0.48
  - severe (n=56) 0.43
- Table 2 presents the mutually adjusted ORs from 96 participants with complete data.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Unadjusted OR (95% CI)</th>
<th>Adjusted OR* (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pop</td>
<td>1.78 (0.81, 3.91)</td>
<td>2.40 (0.85, 6.16)</td>
</tr>
<tr>
<td>Coffee</td>
<td>0.65 (0.28, 1.38)</td>
<td>0.81 (0.31, 2.08)</td>
</tr>
<tr>
<td>Tea</td>
<td>0.50 (0.23, 1.09)</td>
<td>0.56 (0.23, 1.38)</td>
</tr>
<tr>
<td>Alcohol</td>
<td>0.91 (0.42, 1.96)</td>
<td>0.89 (0.36, 2.16)</td>
</tr>
<tr>
<td>Fruits &amp; vegetables</td>
<td>1.23 (0.53, 2.84)</td>
<td>1.29 (0.49, 3.42)</td>
</tr>
<tr>
<td>Smoked / salted foods</td>
<td>0.56 (0.15, 2.26)</td>
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</tbody>
</table>

* Adjusted for variables in table, sex, education and prior care

- ORs for control variables are the following:
  - 1.88 (0.72, 4.94) for male sex
  - 0.64 (0.35, 1.15) for >12 years of school
  - 0.48 (0.18, 1.26) for prior care

CONCLUSION

- We present initial research on severe H. pylori-associated gastritis in Arctic Aboriginal communities.
- Our analysis does not provide clear evidence regarding dietary effects on severe gastritis, although our findings support further investigation of pop and tea.
- For more accurate results we need more data to address key limitations (small sample, temporal ambiguity, endoscopy-associated selection factors and too few cases of mild inflammation for a sharper contrast in gastritis severity).

Acknowledgements

[Image of acknowledgements]