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Non-steroidal anti-inflammatory drugs and risk of neoplastic progression in Barrett's oesophagus: a prospective study

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Summary

Background

Aspirin and other non-steroidal anti-inflammatory drugs (NSAID) probably decrease the risk of colorectal neoplasia; however their effect on development of oesophageal adenocarcinoma is less clear. We aimed to assess the role of NSAID in the development of oesophageal adenocarcinoma and precursor lesions in people with Barrett's oesophagus—a metaplastic disorder that confers a high risk of oesophageal adenocarcinoma.

Methods

We did a prospective study of the relation between duration, frequency, and recency of NSAID use and the risk of oesophageal adenocarcinoma, aneuploidy, and tetraploidy in a cohort of 350 people with Barrett's oesophagus followed for 20 770 person-months. We used proportional-hazards regression to calculate hazard ratios (HR) adjusted for age, sex, cigarette use, and anthropometric measurements.

Findings

Median follow-up was 65.5 months (range 3.1–106.9). Compared with never users, HR for oesophageal adenocarcinoma (n=37 cases) in current NSAID users was 0.32 (95% CI 0.14–0.76), and in former users was 0.70 (0.31–1.58). 5-year cumulative incidence of oesophageal adenocarcinoma was 14.3% (95% CI 9.3–21.6) for never users, 9.7%



(4.5–20.5) for former users, and 6.6% (3.1–13.6) for current NSAID users. When changes in NSAID use during follow up were taken into account, the associations were strengthened: HR for oesophageal adenocarcinoma for current users at baseline or afterwards was 0.20 (95% CI 0.10–0.41) compared with never users. Compared with never users, current NSAID users (at baseline and follow-up) had less aneuploidy (n=35 cases; 0.25 [0.12–0.54]) and tetraploidy (n=45 cases; 0.44 [0.22–0.87]).

Interpretation

NSAID use might be an effective chemopreventive strategy, reducing the risk of neoplastic progression in Barrett's oesophagus.

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