OC-005

IS LOW-DOSE ASPIRIN USE ASSOCIATED WITH A REDUCED RISK OF COLORECTAL CANCER? A QRESEARCH PRIMARY CARE DATABASE ANALYSIS

doi:10.1136/gut.2011.239301.5

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Introduction The chemopreventive effect of aspirin for colorectal cancer (CRC) is now well established. However, the dose and duration of aspirin use necessary for this effect is still unclear. Two very large US RCTs using low dose aspirin (325 and 100 mg alt. die) found no reduction in CRC incidence after 10 years follow-up, but a recent meta-analysis of five European aspirin trials suggested that aspirin in a dose of 75–300 mg daily resulted in a 24% reduction in CRC incidence.[1] We have therefore examined the relationship between prescribed aspirin and CRC risk in QResearch, the largest primary care database in the United Kingdom.

Methods A nested case-control study was conducted using data from 574 UK general practices in the QResearch database. Cases were all patients with >15 years of records and diagnosed with colorectal cancer between 1998 and 2008. Cases were matched to up to five controls. Prescriptions in the year before diagnosis were ignored. Association of aspirin use with risk of cancer was estimated in STATA using conditional logistic regression adjusted for comorbidities, smoking status, socio-economic status and use of non-steroidal anti-inflammatory drugs and statins.

Results There were 6643 patients diagnosed with CRC with 15 years of records in the database. Of 24% CRC cases and their controls had been prescribed aspirin at some point, 77% in a dose of 75 mg, 93% as ≤150 mg and 98% as 300 mg or less. Table 1 shows a gradual reduction in CRC risk (odds ratios) with increasing total duration of aspirin use (p for trend = 0.012). In a larger cohort with only 10 years of database records, there were 9534 CRCs and the risk of CRC with 7–9 years of aspirin use was 0.82 (0.73–0.93, $p < 0.001$).

Conclusion Use of low dose aspirin is associated with about a 20% reduction in CRC incidence but this reduction is only evident after over 7 years of use. Although this is a modest reduction aspirin, combined with other agents such as calcium could result in a more substantial effect.

Competing interests None.

Keywords aspirin, chemoprevention, colorectal cancer.

REFERENCE

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Table 1 OC-005 Relative Risk(ORs) of Colorectal Cancer according to duration of previous low dose aspirin use in QResearch primary care database

Duration of Aspirin use	Cases (%) (n = 6643)	Controls (%) (n = 20652)	Unadjusted odds ratio (95% CI)	Adjusted odds ratio (95% CI)	P-value
No use	5071 (76.3)	15718 (76.1)	1.0 reference	1.0 reference	
Up to 365 days	417 (6.3)	1152 (5.6)	1.15 (1.02 to 1.30)	1.12 (0.99 to 1.26)	0.083
2 to 3 years	380 (5.7)	1166 (5.6)	1.03 (0.91 to 1.17)	0.97 (0.85 to 1.11)	0.703
4 to 6 years	378 (5.7)	1193 (5.8)	1.03 (0.91 to 1.16)	0.96 (0.84 to 1.10)	0.546
7 to 9 years	233 (3.5)	806 (3.9)	0.94 (0.81 to 1.10)	0.87 (0.73 to 1.02)	0.094
10 to14 years	164 (2.5)	617 (3.0)	0.90 (0.75 to 1.08)	0.81 (0.66 to 0.98)	0.033

Is low-dose aspirin use associated with a reduced risk of colorectal cancer? A QResearch primary care database analysis

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Gut 2011 60: A3
doi: 10.1136/gut.2011.239301.5