High risk of colorectal cancer after high-grade dysplasia in inflammatory bowel disease patients

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Background: Colonic high-grade dysplasia (HGD) is the highest-risk precursor of colorectal cancer (CRC) in inflammatory bowel disease (IBD) with reported incidence rates of 1.0-3.5%. Data on metachronous CRC risk after HGD in IBD are limited and outdated. The aim of this study was to determine the long-term risk of CRC after a first diagnosis of HGD in IBD, and to assess utilization of HGD treatment strategies over the past three decades.

Methods: In this nationwide retrospective cohort study, patients with colonic IBD and HGD diagnosis between 1991 and 2021 were extracted from the Dutch nationwide pathology databank (PALGA). The primary outcome was the cumulative incidence of metachronous CRC and colorectal neoplasia. Kaplan Meier curves were used to show proctocolectomy free survival per decade.

Results: CRC was diagnosed in 348 of 1,220 patients with baseline HGD (28.5%). Of these, 204 patients (16.7%) were diagnosed with CRC within 6 months after the first HGD diagnosis and were considered synchronous CRC patients. Metachronous CRC was diagnosed in 144 of 1,016 patients (14.2%) after a median 3.6 years. The 1-, 5-, and 10-year cumulative incidences of metachronous CRC after HGD were 2.9%, 10.0%, and 15.9%, respectively. Proctocolectomy free survival did not differ between decades of HGD diagnosis after 8 years of follow-up ($p = 0.58$).

Conclusion: The high cumulative incidence of synchronous and metachronous CRC after a diagnosis of HGD underlines the high-risk profile for this subgroup of IBD patients. The possible advantages of colon sparing treatment for HGD should be balanced with the

subsequent higher risk of metachronous CRC and colorectal neoplasia and resulting need for stringent endoscopic surveillance.