

Publication**Colorectal cancer and markers of anemia****JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)****ID** 4493298**Author(s)** Schneider, Cornelia; Bodmer, Michael; Jick, Susan S.; Meier, Christoph R.**Author(s) at UniBasel** [Meier, Christoph R.](#) ; [Schneider, Cornelia](#) ;**Year** 2018**Title** Colorectal cancer and markers of anemia**Journal** European journal of cancer prevention : the official journal of the European Cancer Prevention Organisation (ECP)**Volume** 27**Number** 6**Pages / Article-Number** 530-538**Mesh terms** Aged; Aged, 80 and over; Anemia, Iron-Deficiency, mortality; Biomarkers, Tumor, blood; Case-Control Studies; Cohort Studies; Colorectal Neoplasms, mortality; Databases, Factual, statistics & numerical data; Erythrocyte Indices; Female; Ferritins, blood; Hemoglobins, analysis; Humans; Male; Middle Aged; Prognosis; Survival Analysis; Time Factors

Unexplained iron-deficiency anemia is an important marker for colorectal cancer (CRC). Our objectives were as follows: (a) to assess whether the association between anemia and CRC can be detected on the 'Clinical Practice Research Datalink', (b) to evaluate the timing between laboratory changes and CRC detection, and (c) to analyze its association with survival. We conducted a case-control study on patients with an incident CRC diagnosis during 2008-2012 and a 1 : 1-matched control group. We compared anemia markers serum ferritin (SF), hemoglobin (Hb), mean corpuscular volume (MCV), and red blood cell count between cases and controls using conditional logistic regression. We assessed survival in CRC cases. SF values up to 20/ml were associated with an odds ratio [OR (95% confidence interval)] of 10.66 (6.88-16.51) compared with SF values of 101-300/ml when restricted to measurements up to 180 days before the CRC diagnosis. For measurements taken at 1 year or earlier before the diagnosis, the OR was 2.02 (1.57-2.61). For Hb values less than 9/dl compared with Hb values of 13.0-15.9/dl the corresponding ORs were 74.25 (34.69-158.91) and 2.19 (1.31-3.67), respectively. The corresponding ORs for MCV values up to 80 compared with MCV values of 86-95 were 13.94 (10.31-18.85) and 1.89 (1.51-2.36), respectively. Low levels of these markers were only weakly associated with survival. Hb, MCV, and SF levels substantially dropped only shortly before the CRC diagnosis. Although slightly more cases had anemia markers compared with controls at 1 year or earlier before the diagnosis, most cases still had normal values. The Clinical Practice Research Datalink is well-suited to detect associations between low Hb, MCV, and SF levels and CRC.

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