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#### **Type 2 diabetes and colorectal cancer: a case control study - Research protocol**

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**Background and Aim:** Diabetes Mellitus (DM) and Colorectal Cancer (CRC) are common pathologies, especially in developed countries. The prevalence of DM in Europe is 7.9%, while in Portugal was 13.1% in 2014. Worldwide, the CRC is the third most common cancer in men and the second in women, still being the third cause of death. Beyond the known sharing of risk factors, some studies have raised the possibility of an association between DM and CRC, being hyperinsulinemia suggested as a possible mechanism for carcinogenesis. The aim of this study is to verify the existence of an association between type 2 DM and CRC. Furthermore, prevalence of type 2 DM in the population with CRC will be determined.

**Method:** It will be performed a case-control study in the three General Practice Centers, in Minho region of Portugal. The individuals diagnosed with CRC (code D75 according ICPC-2) within the last 5 years will be the selected cases. The controls will be randomly selected in the proportion of 1:1. The variables in study – gender, age and type 2 DM - will be collected, and the data will be introduced in a database, built for the purpose. Finally, a descriptive and statistical analysis will be applied to verify the association under study, using logistic regression.

**Results and Conclusions:** European and American guidelines aware for the association of smoking and obesity with CRC, but do not enhance the risk in patients with DM. This study started in August 2015 and is ongoing until October 2016.