SURVIVAL ADVANTAGE OF METFORMIN IN PATIENTS WITH COLORECTAL CANCER AND TYPE II DIABETES MELLITUS: THE MIDDLE EASTERN PERSPECTIVE

Shamseddine Ali1, Hamieh Lana1, Mukherji Deborah2, Temraz Sally3, Garrett Christopher4
1American University of Beirut Medical Center, Beirut, Lebanon
2American University of Beirut Medical Center, Beirut, Lebanon
3American University of Beirut Medical Center, Beirut, Lebanon
4The University of Texas MD Anderson Cancer Center, Houston, USA

Introduction: Type 2 Diabetes Mellitus (DM) is associated with an increased risk of colorectal cancer (CRC). However, the use of metformin has been reported to increase survival in patients with CRC and type 2 DM. Due to the high prevalence of DM in the Middle East, we underwent a retrospective data collection to assess the effect of metformin on survival in diabetic patients with CRC at our institution.

Methods: We conducted a retrospective analysis of 515 patients diagnosed with CRC at the American University of Beirut Medical Center (AUBMC) between 1/1/2004 and 31/12/2013 to assess the prevalence of DM in this patient population. Among those who were diagnosed with both DM and CRC, we sought to compare the overall survival (OS) between those who were on metformin as part of their diabetic therapy versus those who were not.

Results: 110 patients out of 515 CRC patients (21.4%) were found to have type 2 DM. 27 patients were censored due to the lack of data regarding their date of diagnosis or follow up. Mean age of the 83 patients analyzed was 67.6 years (± 9.6 years), Male: female ratio was 2.3:1, non-metformin (n = 19, 22.9%), metformin (n = 64, 77.1%). OS by univariate Kaplan Meier analysis was 85.0 months (95% CI, 75.4-94.6). Patients with metformin as part of their diabetic therapy had a survival of 81.8 months (95% CI, 70.5-93.1) as compared to 93.2 months in those patients not treated with metformin (95% CI, 83.3-103.1). The p-value was 0.23 indicating that there was no significant difference in OS between the two groups.

Conclusion: This study showed no survival advantage in metformin use in diabetic patients with CRC. The results are inconsistent with previous findings, most likely due to the small sample size. This study was supported by the American University of Beirut Medical Center/MD Anderson Sister Institution Network.