

## Evaluation the effect of carvedilol in profilaxy of 5fu (5 fluorouracil) cardiac toxicity in gastro intestinal cancer

### Abstract

**Background:** One of the most common causes of death in cancer patients undergoing chemotherapy is heart disorders. These heart disorders mainly occur in people who had not any heart disorders before. 5FU is currently the second most common cause of cardiotoxicity after anthracycline. Due to the high prevalence of gastrointestinal cancers in our country and Ardabil province, gastrointestinal cancers are the fourth most common cancer in the country and the first most common cancer in Ardabil province and the need to use of 5FU to treat these patients and the lack of comprehensive studies in this field; this study aims to address this important problem.

**Aim:** To determine the effect of carvedilol in the prevention of 5FU-induced cardiovascular complications in gastrointestinal cancer patients

**Methods and material:** The sample size was 60 people who were divided into two groups of 30 people. Group A received carvedilol before starting 5FU chemotherapy. Group B also received a placebo. At the end of three chemotherapy courses; LVEF, troponin, ECG, PAP and valvular diseases were measured and compared in the two groups.

**Results:** The mean age of the patients was 65.08 years, which was slightly higher in the control group than the intervention group, but this difference was not significant. The number of men in both groups was higher than the number of women, but this difference was not significant. In the last course (third time) LVEF in group A 4 people (13.33%) was lower than 40 and in group B was 6 people (20%). This finding showed that the effect of carvedilol treatment was not significantly different in these patients and their comparison did not show a significant difference ( $P = 0.546$ ). After three rounds of study, none of the patients in group A had PAP higher than 30, but in group B, 2 patients (6.67%) had this, which indicates that carvedilol prevented excessive increase in pulmonary blood pressure in patients with gastrointestinal cancer treated by 5FU. However, the comparison of the two groups in terms of PAP did not show a significant difference ( $P < 0.05$ ). In terms of ECG examination, none of the people receiving carvedilol (group A) had any AF rhythm examination in any of the cases, but in group B, 2 people showed AF rhythm in their ECG in the third course of study.

**Conclusion:** Carvedilol has a significant effect on prevention of excessive increase in PAP and prevention of EF reduction and prevention of cardiotoxicity after receiving 5-FU in GI cancer patient.

**Keywords:** GI cancer, 5fu, cardiotoxicity