ABSTRACT

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Title of Thesis Influence of tumor marker CA 19-9 for development pancreatic cancer

Introduction: Pancreatic Cancer is a serious illness with non-specific initial characteristic symptoms. For most patients, the diagnosis is discovered only at an advance stage when the application of radical treatment is no longer possible. It is assumed that the tumor marker CA 19-9 levels are significant factors for determining diagnosis and prognosis of patients affected by the existence of a pancreatic tumor, particularly during active monitoring of the health condition of the affected patients.

Objective: The objective of the research was to verify the significance of the tumor marker level CA 19-9 during the prognosis determination of patients suffering from pancreatic cancer. The objective of our research was simultaneously the comparison and assessment of CA 19-9 levels in individual patients and detection of the prognosis of susceptibility of the patients participating in our group.

Methods: A total of 289 diagnosed pancreatic cancer patients were examined during the period between 01.01.2015 – 31.12.2015 in the Hradec Králové Faculty Hospital and were placed into our research program group. For the reason of incomplete statistics, we withdrew 41 patients from the program group and followed the effect of the blood marker level CA 19-9 for the remaining 248 patients aged 42 to 89. Individual patient information ascertained from their medical record was processed and documented in our chart. Retrospectively we analyzed all documented data from the prospective managed database.

Results: Resection of pancreatic carcinoma was possible in 35.48 % of patients, exploration was conducted in 35.89 % of patients, and no surgical treatment was implemented in 28.63 % of patients. Determination of the survival median period of 10 months with a 95% accuracy
interval (8:10) of the entire program group was based on the measure of tumor marker level CA 19-9. A survival period of 8 months with a 95% accuracy interval (6:9) was determined in patients with conducted exploration. A survival period of 6 months with a 95% accuracy interval (5:6) was determined in patients without resection. The longest survival period of 15 months with a 95% accuracy interval (13:20) was found in patients with a conducted resection. The difference in the survival period of patients with conducted resection compared to patients with conducted exploration and with a group of patients without any surgical procedure was statistically important (p < 0.001). After allocation of the CA 19-9 levels into quadrants, the longest survival period of 12 months with 95% accuracy interval (8:13) was in Stage 1. The survival period was estimated at 11 months with 95% accuracy interval (9:14) in Stage 2. The survival period in Stage 3 was evaluated at 9 months with 95% accuracy interval (7:10) and in Stage 4 at 8 months with 95% accuracy interval (5:9). Statistically important was Stage 1 in comparison to Stage 4 (p < 0.05) and Stage 2 in comparison to Stage 3 and Stage 4 (p < 0.05).

**Conclusion:** The level of CA 19-9 can be a helpful tumor marker for determination of treatment and observation of the health condition of patients suffering from pancreatic cancer. An increased level of CA 19-9 signifies worse prognosis. Radical resection significantly extends the survival period of the patients.

**Key words:** pancreatic cancer, tumor marker CA 19-9, prognosis of disease