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EXPLORATORY ANALYSIS OF A LARGE SINGLE-CENTRE PANCREATIC REGISTRY IN UKRAINE

Background/Aim. Pancreatic cancers (PC) are highly malignant tumours with median survival without treatment of 3–6 months. Clinical and molecular predictors of PC treatment outcome are needed. We have analysed the Ukrainian Pancreatic registry – a single-centre clinical dataset of 299 patients with 315 raw parameters of PC that have been undergoing surgical treatment at the National Cancer Institute (Kyiv, Ukraine) from 2019 to 2024. **Methods.** After data cleaning and transformation 180 columns were used for cross-sectional correlation analyses. After descriptive statistics, Spearman and Kendall correlations were calculated. The intersection of the correlation matrices had been used for further multivariate regression models with inclusion of the main covariates (sex, age, diagnosis, BMI, tumour stage). All the analyses were carried out in R. **Results.** The dataset included 138 men, 160 women, for 1 patient their gender was unknown, mean age at surgery 59.1 ± 12.0 years. The majority of the cases were adenocarcinomas (197, 81.7%), followed by NET (25, 10.4%), GIST (3, 1.2%), and other types. The majority of patients had G2 grade at the time of surgery (129, 55.6%). There have been 23 inpatient deaths (7.7%) and 10 in-home deaths (3.3%). 32 parameters had weak to moderate correlations ($r = 0.094–0.514$, $p < 0.05$) at least with 2 of the major outcomes (patient status, Karnofsky index, or Clavien-Dindo complications) under both Spearman and Kendall correlations. Multivariate regression models confirmed that pancreatectomy was negatively associated with poor outcomes (odds ratios (ORs) = 0.008–0.029, FDR p -value < 0.05) while prolonged time to nasogastric tube removal was positively associated with them (OR = 1.14–1.36). Several proxy clinical parameters were associated with poor outcomes (e.g. neochemotherapy or necessity of red blood cell transfusion) which may reflect underlying severe pathology. **Conclusions.** In this exploratory study, we have systematically collected and thoroughly analysed multiple clinical parameters from 299 patients with PC and have developed a framework for the data collection and analysis. While the study is underpowered to get robust clinically relevant results, the reported above associations are in line with current clinical evidence-based recommendations. To obtain clinical insights, a larger dataset with deeper phenotyping and inclusion of instrumental and molecular diagnostic data should be used.

Keywords: Pancreatic cancer, clinical dataset, correlation analysis, cross-sectional analysis.

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