STRESZCZENIE W JĘZYKU ANGIELSKIM/SUMMARY

Percutaneous liver biopsy is still considered to be the gold standard of liver fibrosis. It is an invasive procedure and can lead to various complications. In addition, the test result may be biased due to the failure to obtain a representative sample. Recently, diagnostic methods alternative to liver biopsy have appeared, enabling the non-invasive diagnosis and monitoring of fibrosis. These include algorithms (formulas) composed of several laboratory tests and physical characteristics (AST, ALT, GGT, PLT, bilirubin, albumin, cholesterol and patient age, BMI). In contrast to liver biopsy, non-invasive tests can be performed repeatedly without prejudice and without the risk of health complications. Therefore, they are a very good diagnostic tool that allows to assess the dynamics of the liver fibrosis process in patients with chronic liver diseases, in particular in hepatitis C.

10.   In addition, due to the spreading of SARS-CoV-2 virus pandemic and its pleiotropic activity, an important aspect is the assessment of the liver function in the course of infection. Assessment of the functional state of the liver is an important element of the diagnostic and therapeutic processes, due to the effect of the applied therapy of the basic disease and accompanying diseases on the metabolic processes in this organ.

Accordingly, the aim of this study was to:

1.   Demonstrate the usefulness of non-invasive laboratory indicators of liver fibrosis in the assessment of the effectiveness of interferon-free treatment of chronic hepatitis C.

2.   Compare the diagnostic value of non-invasive liver fibrosis indicators to the diagnostic value of the gold standard, which is an invasive liver biopsy.

3.   Compare the efficacy of interferon-free therapy according to the Viekirax + Dezabuvir + Ribavirin regimen, in the group initially treated with pegylated interferon and ribavirin (PEG INF + RBV), to the group not previously treated.

4.   Demonstrate the usefulness of liver function tests (LFT) by reviewing the results of published studies showing liver damage in COVID-19 patients.

The study group consisted of 70 patients with chronic hepatitis C treated with the Viekirax + Dezabuvir + Ribavirin regimen, who underwent a liver biopsy. Each patient was tested twice: before treatment initiation and after 12 weeks of treatment with the Viekirax + Dezabuvir + Ribavirin regimen. The grading of the degree of fibrosis was carried out according to the METAVIR scale. Some patients (n=31) had previously been treated with PEG INF + RBV and some (n=39) had not been treated before. Non-invasive indirect indicators of liver

fibrosis (APRI, GAPRI, HAPRI, AP, Forns' index, FIB-4, HUI index) were calculated on the basis of formulas available in the literature.

Liver function tests (LFTs) were used to assess liver damage in the course of COVID-19. These are mainly enzymes activities (AST, ALT, GGT, ALP, LDH), the concentrations of bilirubin and albumin, and platelet count. It has been shown that the viral load (HCV RNA) after 12 weeks of treatment with the Viekirax + Desabuvir + Ribavirin regimen was undetectable in both groups. The interferon-free treatment increased the percentage of results indicating no or moderate fibrosis and decreased the percentage of results indicating advanced fibrosis and cirrhosis. Moreover, we observed a strong correlation of noninvasive biomarkers (APRI, GAPRI, FIB-4) with the results of elastography at the beginning of the treatment. The values of non-invasive intermediate biomarkers of liver fibrosis were lower for the untreated group compared to the group previously treated with PEG INF + RBV.

A critical review of SARS-CoV-2 infection studies confirms changes in liver function tests (LFTs), but not in all patients. It was shown that the abnormalities in LFT values showed a strong correlation with age and sex of the patients, as well as the incidence of comorbidities and the therapeutic model used. The determinations of LFT in patients with COVID-19 are a valuable source of medical information for assessing the severity of the disease and disease prognosis. The conclusions of this literature review may also be valuable information for clinicians in terms of the selection of anti-retroviral therapy.