

Assesment of a Haemodynamic profile in patients with Cirrhosis

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Abstract:

Cirrhotic cardiomyopathy (CCM) is a condition concerning heart muscle dysfunction in patients with cirrhosis. Cirrhosis leads to the development of a hyperdynamic syndrome, manifested by high CO, increased HR and effective arterial BP and reduced total systemic vascular resistance. Continuous Noninvasive Arterial Pressure (CNAP) device assess patient's haemodynamic profile in a non-invasive way.

Purpose:

To screen patients with cirrhosis, which may lead to earlier diagnosing CCM.

Methods:

The study included 70 patients, with cirrhosis, caused by alcohol ([ALD], 22), autoimmune (26), viral (9) other reasons (13), qualified for Ltx. Each patient had a 6-minute walking test (6MWT) done and hemodynamic monitoring using CNAP device.

Results:

Patients differ between etiologies of liver diseases. Median NTproBNP level was highest in ALD group (253 pg/ml) and viral group (177,5 pg/ul) compared to autoimmune group (51 pg/ul) and other (114 pg/ml). Median QTc interval was more prolonged in patients with viral aetiology (456ms) and ALD aetiology (441ms) than autoimmune aetiology (422ms) and other aetiology (431ms). Median SVRI was lowest in viral group (1700 dyn- s/cm⁻⁵/m²) and higher in autoimmune group (2067 dyn- s/cm⁻⁵/m²) and other group (2432 dyn- s/cm⁻⁵/m²).

Preliminary results show statistically significant correlations between distance in 6MWT and eGFR ($r=0,78; p=0,0082$), SVR ($r=0,197; p=0,0011$), DBP ($r=0,45; p=0,014$) and NT-proBNP ($r=0,28; p=0,0008$).

Conclusions:

Preliminary results show that we can detect subclinical alterations in patients' circulatory system by non-invasive methods. Patients with viral and ALD etiology presented more advanced liver cirrhosis stages and more pronounced manifestations of hyperdynamic syndrome which may progress to CCM. Positive correlation of liver cirrhosis stage and NTproBNP, QTc and 6MWT distance may suggest heart function impairment in course of liver disease.

Biography:

Maciej Kuztal - 6th year medical student of Warsaw Medical University. His main objects of interest comprise internal medicine and cardiology but also emergency medicine and intensive care. Maciej's research projects were awarded on several medical congresses for student and young scientists in Poland and his last project was granted with financial support from Ministry of Science and Higher Education in Poland.

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