Impact of diabetes mellitus on the incidence and clinical course of spontaneous bacterial peritonitis in patients with liver cirrhosis and ascites

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Background:
- Spontaneous bacterial peritonitis (SBP) is a common complication in patients with decompensated liver cirrhosis associated with a high mortality.
- Diabetes Mellitus Type 2 (DM) is a frequent comorbidity in patients with liver cirrhosis and ascites.
- The effect of DM in cirrhosis is a poorly investigated topic and there are only a few data on the influence of DM and HbA1c values on the incidence and course of SBP.
- Currently the importance of HbA1c adjustment in patients with liver cirrhosis is not known.

Aim:
- We aimed to investigate the influence of DM on the incidence and the clinical course of SBP in a large cohort of patients with decompensated liver cirrhosis and ascites.

Patients and Methods:
- A number of 1011 consecutive patients with decompensated liver cirrhosis and ascites who underwent at least one paracentesis between January 2012 and June 2016 at Hannover Medical School were considered for this study.
- Patients with evidence of a secondary intraabdominal infection, presence of a malignancy (except for hepatocellular carcinoma within the MILAN criteria), history of solid organ transplantation (except for liver transplantation), stem cell transplantation, congenital immune dysfunction, or presence of HIV infection were excluded.
- Presence of SBP was considered with a leukocyte cell count ≥2500/µl or a polymorphonuclear cell count ≥250/µl.
- Information for the presence of DM was assessed out of patients medical records.

Results:

- Patients with DM have a higher SBP incidence in the long term follow-up.
- Patients with DM and a higher HbA1c have a relevant increase of SBP incidence.

Impact of DM on the incidence of SBP

Impact of DM on mortality

Table 1: Patient characteristics at the first paracentesis

Table 2: Characteristics of DM patients with HbA1c values ≥6.4 vs. <6.4

Figure 1: Flow chart of patient recruitment

Figure 2: SBP incidence at first paracentesis (a) and in the long-term follow-up (b)

Figure 3: Overall survival of patients after the first paracentesis (a). Overall survival after SBP diagnosis (b)

Figure 4: 90-day SBP incidence in patients with diabetes and different HbA1c values

Figure 5: Influence of high and low HbA1c values on SBP incidence

Table 3: Characteristics of DM patients with HbA1c values ≥6.4 vs. <6.4

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