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## Treatment of Patients with Cirrhosis

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### Editorial

Several influential authors in their recent review on the treatment of patients with cirrhosis [1-3] did not mention spontaneous fungal peritonitis (SFP) as a severe complication of liver cirrhosis. Spontaneous peritonitis (SP) is an infection of ascitic fluid of cirrhotics without an alternative intra-abdominal source of infection. If an ascitic fluid culture is performed, the growth of bacteria makes diagnosis of spontaneous bacterial peritonitis (SBP), instead the growth of fungi makes diagnosis of SFP. SFP prevalence varies from 3.6% to 41% of patients with a positive ascitic fluid culture; *Candida* spp. is the most common fungus isolated [4-6]. SFP mortality is very high ranging from 90% to 100% of patients [4,5]. Hospitalization seems to be a SFP risk factor [4,5]. In a randomized controlled trial, an antifungal agent was added in hospital-acquired SBP with no response to broad-spectrum antibacterial agents: the results of this study showed that addition of an antifungal agent are more effective than antibacterial alone as empirical antimicrobial treatment of SBP [7]. The available literature suggests that SFP should be considered in patients with SP non-responders to initial antibacterial therapy and/or at risk for fungal infections.

Serum Procalcitonin (PCT) test is quite sensitive and specific for the SBP diagnosis but it is not sufficient for the diagnosis without other clinical findings [8].

Ascitic calprotectin should to be an alternative method for SBP diagnosis in ESLD patients [9], so in the near future the association of serum PCT and ascitic calprotectin seems to be satisfactory for the diagnosis of SBP [10].

Unfortunately, these novel biomarkers purposed by literature do not discern the etiology of SP. Recently, label-free bimodal waveguide immunosensor (BiMW biosensor) demonstrated that the detection limits of the biosensor could reach few bacteria per milliliter. Based on the results obtained, we consider that the BiMW biosensor is positioned as a promising new clinical tool for user-friendly, cost-effective and real-time microbiological analysis [11].

*Studies are needed to further evaluate* the accuracy of ascitic fluid label-free bimodal waveguide immunosensor for the early diagnosis and follow-up of SFP.

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