



## The 65th ASH Annual Meeting Abstracts

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## 722.ALLOGENEIC TRANSPLANTATION: ACUTE AND CHRONIC GVHD, IMMUNE RECONSTITUTION

**A Complex Relationship between *Clostridium Difficile* Infection and Graft Versus Host Disease: Fundeni Clinical Institute Experience**

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**Introduction:** *Clostridium difficile* infection (CDI) is a common complication in patients who have undergone hematopoietic stem cell transplantation (HSCT) due to prolonged hospitalization, prolonged neutropenia, use of broad-spectrum antibiotics, mucosal damage, changes in gut microbiota and compromised immunity. The incidence of CDI in patients undergoing allogeneic HSCT varies between 12 and 34% in the literature and has gradually increased in recent years in Europe North America due to the NAP1 strain. In the patient who has experienced allogeneic HSCT, diagnostic testing for CDI should include both nucleic acid amplification test (NAAT) and enzyme immunoassays (EIA) for toxins A and B, because detection of toxins A and B tests have a sensitivity of 75-80%.<sup>5</sup> In HSCT patients, CDI appears to be strongly associated with graft versus host disease (GVHD), gut GVHD and/or severe GVHD, but this has not been universally demonstrated.

**The aim:** For this reason, we wanted to see whether patients who developed a CDI between day 0 and day 100 were at higher risk for gut GVHD or for severe GVHD.

**Results:** Between January 2017 and August 2022, we performed 290 of allogeneic hematopoietic stem cell transplant procedures, in the Fundeni Clinical Institute. 50/290 developed CDI within the first 100 days after HSCT and before the diagnosis of intestinal GVHD, and 240/290 did not develop CDI. 16/50 (32%) of those with CDI developed acute GVHD, respectively 402/240 (43%) of those without CDI. From these 13/16, respectively 50/102 had gut involvement. Of the 118 patients with acute GVHD, 13/16 in the group with CDI, respectively 30/102 in the group without CDI were assigned to severe acute GVHD (grade III and IV). Mortality due to gut GVHD in the group with CDI was 46%, respectively 14% in the group without CDI.

**In conclusion:** CDI is not a risk factor for GVHD, but gut damage is usually associated. CDI infection is associated with severe forms of GVHD, and the implication of the digestive tract in these patients increases mortality. Also, often in the patient with digestive GVHD, CDI can coexist, making them difficult to treat.

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