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abstract

Clostridium Difficile Infection, CMV Reactivation and Gastrointestinal Graft Versus Host Disease in Recipients of Allogeneic Stem Cell Transplantation

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Clostridium Difficile Infection, CMV Reactivation and Gastrointestinal Graft Versus Host Disease in Recipients of Allogeneic Stem Cell Transplantation

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Introduction: Clostridium difficile infection (CDI) and CMV are common infections in patients undergoing allogeneic stem cell transplantation (SCT). We retrospectively evaluated a Sickle cell disease (SCD) patient case of allogeneic stem cell transplant to ascertain the risk factors and outcome of infection with CMV and Clostridium difficile.

Methodology: Retrospective case report of an SCD patient with GI acute GVDH, CMV reactivation, and Clostridium difficile.

Results: In this case report patient was a 10-year-old boy who underwent allogeneic HSCT with a donation from his brother, and the procedure appeared to go well, with no clinical manifestations of SCD following the transplant. However, on day +28 had a fever up to 38.5°C, severe diarrhea, more than >2000 mL/day, abdominal pain, anorexia, dyspepsia, food intolerance, nausea, and vomiting. At the same time, the CDI test and the CMV PCR tests were positive. According to clinical guidelines diagnosis of upper and lower gastrointestinal tract acute GVHD, CMV reactivation, and CDI. Treatment of CDI started with oral Vancomycin and Metronidazole, for CMV with oral Valganciclovir, and for GI and GVHD, except CsA, added MMF, budesonide, and steroid. From day +35, clinical symptoms were relieved, diarrhea volume was reduced, CMV detection by PCR methods was negative, but CDI was positive. Due to immunosuppressive therapy, CMV reactivated the second time, and ganciclovir was started, leading to pancytopenia, and developed sepsis. Fidaxomicin has been used to treat CDI, unfortunately, it hasn't been effective. GI and GVHD clinical symptoms developed a second time, which were uncontrollable. Unfortunately, on day +98 patient died.

Conclusion: One of the mechanisms of GVHD includes tissue inflammation leading to the release of cytokines prominent in the triggering of the immune system. We hypothesize that CMV instigates worsening tissue injury in the gut, raising the risk for GI GVHD, and decreased microbial variety, which is typical for patients with CDI, CMV, and GI GVHD.