Veno-Occlusive Disease Following High Dose Melphalan

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Abstract Hepatic veno-occlusive disease (VOD) is one of the complications following bone marrow transplantation. This complication is uncommon after HDT for autologous SCT (ASCT) in patients with multiple myeloma (MM). Here we report on a 54 years male with MM developed VOD on day 16 of transplant. The Patient was died due to multi-organ failure. The present case suggests that after HDT for ASCT in patients with MM can complicated with VOD.

Keywords Veno-occlusive disease · Melphalan

Hepatic sinusoidal obstruction syndrome (SOS), previously termed hepatic veno-occlusive disease (VOD), is characterized by hepatomegaly, right upper quadrant pain, jaundice, and ascites, most often occurring in patients undergoing hematopoietic cell transplantation and less commonly following use of chemotherapeutic agents in non-transplant settings, ingestion of alkaloid toxins, after high dose radiation therapy, or liver transplantation [1–3]. SOS is described in different conditioning regimen used in bone marrow transplantation (busulphan, cyclophosphamide and total body irradiation based regimen). Pretransplant factors, and factors related to conditioning therapy or occurring during the transplant course are the main risk factors for development of SOS. Regardless of the cause, SOS is thought to begin with endothelial cell injury in

sinusoidal endothelial cells and hepatocytes in zone three of the liver acinus [4]. This complication is uncommon after HDT for autologous SCT (ASCT) in patients with multiple myeloma (MM). Very few case reports and studies were available [5, 6].

In this paper, we report on a 54 years male with MM ISS Stage-II, presented with fracture lumbar vertebra and cord compression. He was treated with four cycles of Thalidomide-Dexamethasone with local Radiotherapy (25G). After four cycles of chemotherapy he achieved complete remission. He had undergone ASCT. Pretransplant work up was within normal limits. He received GCSF 10mcg/kg/day for 4 days Stem cell was harvested and preserved accordingly. Patient was given Inj Melphalan 200 mg/m² slow IV and stem cell was infused (dose-CD34-4.2 × 10⁶/kg). Subsequently RBC was engrafted on day 17 and platelet on day 22. On day 16 to day 23 bilirubin was hovering from 5 to 8 mg/dl with predominant conjugated hyperbilirubinemia with normal AST, ALT and ALP. There was no weight gain but bilateral leg oedema, hepatomegaly, ascites were present. Urea, creatinine and other relevant tests were normal. USG abdomen with doppler was revealed mild ascites, bilateral mild pleural effusion, hepatomegaly with normal portal diameter and with out reversal of flow. In this patient percutaneous liver biopsy is not possible for the diagnosis of SOS because the concurrent thrombocytopenia and coagulopathy. However, protein C, protein S, and AT levels were low from control.

Patient was clinically diagnosed as a SOS of liver. He managed conservatively with salt and water restriction. Defibrotide was not available in our setup. In spite of treatment his bilirubin went up to 42 mg/dl with predominant conjugated hyperbilirubinemia with normal AST, ALT and ALP. On day 45 patients was succumbed due to multi-organ failure. The present case further suggests that

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