Antineoplastics

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Multisystem toxicities: 6 case reports

In a study involving 40 patients aged 3.8-31.5 years, conducted from October 2005 to April 2018, six patients including three children [*sexes not stated; exact ages stated*] were described, who developed fatal hepatic veno-occlusive disease (VOD), multi-organ failure (MOF), respiratory syncytial virus (RSV) pneumonia, acute renal failure, chronic renal failure, influenza-A viral pneumonia, interstitial lung disease, acute respiratory distress syndrome (ARDS), pneumonia, urinary tract infection, peritonitis or ventro-peritoneal shunt infection during high-dose chemotherapy (HDCT) with carboplatin, etoposide, thiotepa, cyclophosphamide and melphalan for medulloblastoma [*routes and dosages not stated; not all durations of treatments to reactions onsets stated*].

The patients, who had medulloblastoma, underwent craniospinal radiotherapy (CSRT). Before and after the CSRT, the patients received alternating induction chemotherapy regimens. Following induction chemotherapy, the patients started receiving tandem high-dose chemotherapy (HDCT), comprising of carboplatin, thiotepa and etoposide in the first HDCT, followed by cyclophosphamide and melphalan in the second HDCT. Concurrently, the patients received other medications. Amongst the 6 patients, three children developed fatal hepatic VOD and MOF 1.9 months (1 patient), 2.3 months (1 patient) and 3.3 months (1 patient) after the second HDCT. Of the remaining three patients, one patient developed fatal RSV pneumonia 1.1 months following the second HDCT and one patient developed severe hepatic VOD and acute renal failure progressing to chronic renal failure, during the second HDCT. The remaining one patient developed recurrent infections including peritonitis, urinary tract infection, pneumonia and ventro-peritoneal shunt infection following HDCT, and at 46 months following the second HDCT, the patient died from pneumonia and ARDS.

The patient, who developed severe VOD, acute renal failure and chronic renal failure, was hospitalised with influenza-A viral pneumonia, and at 30 months following the second HDCT, the patient died of progressive interstitial lung disease and ARDS. All the patients' conditions were attributed to tandem HDCT [*not all outcomes stated*].

Lee JW, et al. Promising survival rate but high incidence of treatment-related mortality after reduced-dose craniospinal radiotherapy and tandem high-dose chemotherapy in patients with high-risk medulloblastoma. Cancer Medicine 9: 5807-5818, No. 16, Aug 2020. Available from: URL: http://doi.org/10.1002/cam4.3199 803509294