

Hydroxycarbamide

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Worsening thrombocytopenia and unmasking of lymphopenia: case report

A 30-year-old man experienced worsening of thrombocytopenia and unmasking of lymphopenia during treatment with hydroxycarbamide for chronic myelomonocytic leukaemia [CMML; *not all dosages stated; times to reactions onsets not stated*]

The man, who had been diagnosed with CMML-2 in December 2019, subsequently started receiving hydroxycarbamide 30 mg/kg/day [hydroxyurea; *route not stated*]. Thereafter, his total leucocyte counts improved. However, in June 2020, he presented to hospital with low-grade fever, fatigue, abdominal discomfort and joint pain, which were all eventually attributed to a leukemoid reaction. Further analyses revealed a pro-inflammatory state and acquired factor X inhibitor. After ruling out all other possibilities, the leukemoid reaction, pro-inflammatory state and acquired factor X inhibitor were attributed to autoimmune aetiologies. Therefore, the dose of hydroxycarbamide was increased, resulting in the disappearance of the factor X inhibitor; however, the increased dose also caused worsening of thrombocytopenia. Therefore, on 15 July 2020, he started receiving FLT3-mutated AML-like intensive chemotherapy (IC) with the '7+3' regimen [*specific drugs not stated*], alongside midostaurin. He subsequently developed diarrhoea and febrile neutropenia secondary to neutropenic enterocolitis, which was treated with unspecified broad-spectrum antibiotics and empirical antifungals. Midostaurin was eventually withheld due to intense myelosuppression [*aetiology not specified*]. At the same time, he complained of a cough; he further developed worsening respiratory distress and hypoxaemia, which prompted tests for COVID-19. On the same day, complete blood count (CBC) demonstrated absolute lymphopenia, with a sudden surge in neutrophils (10-fold increase), as well as a 5-fold increase in the neutrophil-lymphocyte ratio. Subsequent RT-PCR performed on a nasopharyngeal sample was found positive. Therefore, he was admitted to the ICU and mechanically ventilated. He also received off-label therapy with azithromycin, dexamethasone and hydroxychloroquine, in addition to supportive care (platelet transfusions). However, he eventually succumbed to respiratory failure. On retrospection, it was noted that while his absolute lymphocyte count (ALC) at the time of leukemoid reaction was elevated, a subsequent CBC demonstrated lymphopenia, which was unmasked following leucoreduction with hydroxycarbamide. The diarrhoea and febrile neutropenia were attributed to COVID-19 [*ADR outcomes not stated*].

Jain A, et al. COVID-19 in a patient with chronic myelomonocytic leukemia: A twisting tale. *Blood Research* 55: 278-281, No. 4, Dec 2020. Available from: URL: <http://doi.org/10.5045/br.2020.2020230>

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