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CORRESPONDENCE

Remdesivir-Induced Liver Injury in a COVID-Positive Newborn

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To the Editor: Newborns with COVID-19 infection pose a unique challenge in management. Pharmacokinetics of antiviral drug remdesivir is not clear. We present a newborn with COVID-19, who had severe hypoxemia requiring intubation, but on administering remdesivir, the baby had worsening transaminitis requiring stoppage of the drug, following which, liver enzymes normalized over the next 2 wk.

A 14-d normal-term neonate on breast-feed developed poor feeding, lethargy, and rapid breathing on day 13 of life. The baby had respiratory distress requiring CPAP. Chest radiograph showed streaky infilterates suggestive of viral pneumonia, and the baby was tested positive for COVID by RT-PCR. The baby had worsening distress and intubated on day 5 of hospital stay. Considering the possibility of severe COVID pneumonia, baby was started on remdesivir at 5 mg/kg/d. Steroids were not considered in view of suspected infection. After starting remdesivir, the baby had significant transaminitis of AST - 1121 U/L (16.1–55.4 U/L) and ALT - 832 U/L (14–84 U/L) along with total bilirubin of 2 mg/dL after the first dose of remdesivir. Drug-induced liver injury vs. COVID-infection–induced hepatitis were considered for transaminitis, and remdesivir was stopped after 1 dose. Liver enzymes gradually normalized by day 15 of hospital stay.

Since derangement and improvement of the liver function tests had temporal association with starting and discontinuation of remdesivir therapy, respectively, so drug-induced liver injury was considered more likely. The baby was discharged on day 18 on breast-feed.

Remdesivir has shown decreased hospital duration and modest survival benefit in moderate and severe COVID infection among adult patients [1, 2]. Remdesivir can raise transaminases and has been avoided in patient with pre-existing liver failure and creatinine clearance below 30 mL/min [3, 4].

We have reported the first case of remdesivir-induced liver injury in a newborn with SARS-CoV-2 infection; remdesivir should be used with caution and restricted only to the cases of severe COVID infection.

Declarations

Conflict of Interest None.

References

1. Zampino R, Mele F, Florio LL, et al. Liver injury in remdesivir-treated COVID-19 patients. Hepatol Int. 2020;14:881–3.
2. Beigel JH, Tomashek KM, Dodd LE, et al. Remdesivir for the treatment of Covid-19 — Final Report. N Engl J Med. 2020;383:1813–26.
3. Adamsick ML, Gandhi RG, Bidell MR, et al. Remdesivir in patients with acute or chronic kidney disease and COVID-19. J Am Soc Nephrol. 2020;31:1384–6.
4. Goldman DL, Aldrich ML, Hagmann SHF, et al. Compassionate use of remdesivir in children with severe COVID-19. Pediatrics. 2021. https://doi.org/10.1542/peds.2020-047803.

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