Remdesivir for COVID-19

Remdesivir is an intravenously administered nucleoside analogue antiviral. Remdesivir is active against SARS-CoV-2, including Alpha, Beta, Delta, Gamma and Omicron variants.

Clinical indications

1. Patients with confirmed non-severe COVID-19, and > 40 kg*; and
   • at **highest risk** for hospitalization;
   • with symptoms **less than 7 days**; and
   • when alternative treatment options such as nirmatrelvir-ritonavir are not accessible or clinically appropriate.

2. Patients with confirmed **severe** COVID-19; and > 40 kg*.

Those at highest risk are typically those not fully vaccinated against COVID-19, with older age and/or chronic conditions, such as: hypertension, diabetes, cardiac disease, chronic lung disease, cerebrovascular disease, dementia, mental disorders, chronic kidney disease, immunosuppression (including HIV), obesity, and cancer.

* There were eight children (12 years or more of age) enrolled in the PINETREE trial with non-severe COVID-19. None of the included randomized controlled trials for patients with severe COVID-19 enrolled children, and therefore the applicability of this recommendation to children remains uncertain.

Contraindications

- Hypersensitivity to the active substance(s)
- or to any of the excipients.
- The excipients include:
  - betadex sulfobutyl ether sodium
  - hydrochloric acid
  - sodium hydroxide.

Available formulation and storage

- Remdesivir is supplied as a single-dose 100 mg vial (5 mg/mL after reconstitution) containing a sterile, preservative-free white to off-white to yellow powder (see reconstitution guidance).
- Store vials below 20–30 °C until required for use.

Dosage and route

**Route**

- The route of administration is intravenous after reconstitution and dilution.
- It should not be administered simultaneously with other medicinal products in the same dedicated line.
- It should not be given as an intramuscular injection.

**Dose and duration**

- **First dose:** Remdesivir 200 mg given by intravenous infusion.
- **Each day after:** Remdesivir 100 mg given by intravenous infusion.

- **For non-severe disease,** the duration of treatment is 3 days.
- **For severe disease** in hospital, the duration of treatment is 5 days.

**Renal impairment:**

- One of the excipients in remdesivir, betadex sulfobutyl ether sodium, is renally cleared and accumulates in patients with decreased renal function. It may potentially adversely affect renal function.

**Hepatic impairment:** Remdesivir has not been studied in patients with hepatic impairment. It should not be used in patients with ALT > 5 x upper limit of normal or if patient has an abnormal alanine transaminase/aspartate transaminase ratio (ALT/AST) which is accompanied by signs and symptoms of liver inflammation.

Contraindications

**Recommendations for not starting or discontinuing remdesivir**

- Children under 12 years of age
- Persons < 40 kg
- Renal impairment with eGFR < 30 mL/min
- Alanine transaminase (ALT) > 5 x upper limit of normal

Dose adjustment

**Renal impairment:** Do not use in patients with an estimated glomerular filtration rate (eGFR) ≤ 30 mL/min. There is no dose adjustment with an eGFR > 30 mL/min.

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