MONOCLONAL ANTIBODIES

Bamlanivimab is a human IgG1 monoclonal antibody (mAb) made in the laboratory setting that is given as a substitute for natural antibodies in the immune system's attack on the COVID-19 virus. The drug works by blocking the entry of the virus into human cells, preventing its reproduction and decreasing the patient's viral load and symptoms.

Monoclonal Antibodies

Experiences with mAb administration for oncologic indications have led to the following safety and administration considerations when administering these agents.

Preadministration

- Complete a comprehensive patient assessment, including vascular access with the patency confirmed.
- Confirm the treatment with the patient. Verify consent. Reinforce patient education.
- Obtain any needed laboratory values or test results.
- With two professionals competent in the administration in the drug, review the orders and independently verify the medication and patient. Verify two patient identifiers, as well as drug name, dose, volume, and route and rate of administration.
- Verify that premedication, hydration, and other preparations are completed if prescribed.
- Prepare spill kit, and ensure that emergency kit or other equipment is readily availble.
- Prepare a primary line of a compatible carrier solution that can be started immediately after stopping the drug in the event of a reaction.

Administration

- mAbs are administered by IV infusion.
- Note that with any new drug, safe handling precautions are recommended until a safety profile is determined. For the nurse administering the drug, wear two pairs of chemotherapy-tested gloves when handling the medication, in addition to the personal protective equipment used for infection control.
- Verify the patient using two identifiers.
- Verify the IV pump settings prior to beginning the infusion.
- Administer the drug as ordered.
- Monitor for acute side effects. (Some mAbs have protocols that call for frequent vital sign monitoring. Institutions should determine monitoring frequency and parameters based on reaction risk.)
- Document drug administration and patient response.

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Infusion Reactions

There are several types of infusion reactions that can occur with mAbs. **Hypersensitivity reactions** are generally unexpected, regulated by the immune system, and allergic in nature. These reactions can be immediate (within five minutes) or delayed (hours to days after completion of the infusion). **Anaphylactic reactions** are hypersensitivity reactions that are systemic and can be life-threatening (Olsen et al., 2019; Roselló et al., 2017).

Prior to an infusion of a mAb, nurses should do the following (Olsen et al., 2019):

- Verify patient allergies.
- Educate the patient to be aware of early signs of a reaction.
- Premedicate as prescribed.

Monitor patients closely for reactions, recognizing that the highest risk occurs in the first 5–15 minutes of the infusion. Vital sign changes are an early indication of a reaction.

Hypersensitivity Reactions

Consult the institution's policies and procedures. As follows are some general guidelines.

- Stop the infusion of the suspected drug immediately but maintain IV access.
- Call the healthcare provider but stay with the patient. Do not leave.
- Assess the patient, and compare this evaluation to their baseline. Monitor the patient's status closely.
- Provide emotional support.
- Prepare for and provide emergency treatment per orders or protocol.
- Administer histamine blockers as ordered.

Following resolution of symptoms, infusion may be ordered to resume at a slower rate (50%). The rate should be titrated slowly (Olsen et al., 2019).

Anaphylactic Reactions

Refer to accompanying STAT sheet

References

Olsen, M., LeFebvre, K.B., & Brassil, K.J. (Eds.). (2019). *Chemotherapy and immunotherapy guidelines and recommendations for practice*. Oncology Nursing Society

Roselló, S., Blasco, I., García Fabregat, L., Cervantes, A., & Jordan, K. (2017). Management of infusion reactions to systemic anticancer therapy: ESMO Clinical Practice Guidelines. *Annals of Oncology, 28*(Suppl. 4), iv100–iv118. https://doi.org/10.1093/annonc/mdx216

U.S. Food and Drug Administration. (2020). Frequently asked questions on the emergency use authorization for bamlanivimab. Retrieved from https://www.fda.gov/media/143605/download.

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