Iobenguane I-131 (Azedra®)

**Pronounced:** eye-oh-BEN-gwane eye-one-THUR- tee-one

**Classification:** Radiopharmaceutical

**About Iobenguane I-131 (Azedra®)**

Iobenguane 131 follows similar patterns in the body as the neurotransmitter norepinephrine (NE). As with NE, iobenguane I-131 accumulates in certain adrenal tissues. When this medication is given, iobeguane I-131 collects within the cancer cells in adrenal tissue and the radiation particles within the medication cause the cancer cells to die.

**How to Take Iobenguane I-131**

This medication is given through intravenous (IV, into a vein) infusion. Women should undergo a pregnancy test before receiving this medication. Because of its radioactive properties, caregivers should practice radiation precautions. Your care team will advise you on specific radiation safety practices to protect yourself and your family/close contacts.

You should drink 2 liters of liquid one day prior to and for 7 days after receiving this medication.

You will receive inorganic iodine beginning at least 24 hours before and continuing for 10 days after each dose of iobenguane I-131.

This medication can interact with several other medications. These medications should not be taken for 7 days after treatment. They include (but are not limited to) phentermine, tramadol, reserpine, labetolol, pseudoephedrine, amitriptyline, buproprion, mirtazapine, venlafaxine, phenelzine, linezolid, many antidepressants, and supplements including ephedra and St Johns wort. Be sure to tell your healthcare provider about all medications and supplements you take.

**Possible Side Effects**

There are a number of things you can do to manage the side effects of iobenguane I-131. Talk to your care team about these recommendations. They can help you decide what will work best for you. These are some of the most common or important side effects:

**Low White Blood Cell Count (Leukopenia or Neutropenia)**

White blood cells (WBC) are important for fighting infection. While receiving treatment, your WBC count can drop, putting you at a higher risk of getting an infection. You should let your doctor or nurse know right away if you have a fever (temperature greater than 100.4°F/38°C), sore throat or cold, shortness of breath, cough, burning with urination, or a sore that doesn’t heal.

**Tips to preventing infection:**

- **Washing hands**, both yours and your visitors, is the best way to prevent the spread of infection.
- Avoid large crowds and people who are sick (i.e.: those who have a cold, fever or cough or live with someone with these symptoms).
- When working in your yard, wear protective clothing including long pants and gloves.
- Do not handle pet waste.
- Keep all cuts or scratches clean.
- Shower or bath daily and perform frequent mouth care.
- Do not cut cuticles or ingrown nails. You may wear nail polish, but not fake nails.
- Ask your oncology care team before scheduling dental appointments or procedures.
- Ask your oncology care team before you, or someone you live with, has any vaccinations.

**Low Platelet Count (Thrombocytopenia)**
Platelets help your blood clot, so when the count is low you are at a higher risk of bleeding. Let your oncology care team know if you have any excess bruising or bleeding, including nose bleeds, bleeding gums or blood in your urine or stool. If the platelet count becomes too low, you may receive a transfusion of platelets.

- Do not use a razor (an electric razor is fine).
- Avoid contact sports and activities that can result in injury or bleeding.
- Do not take aspirin (salicylic acid), non-steroidal, anti-inflammatory medications (NSAIDs) such as Motrin/Advil (ibuprofen), Aleve (naproxen), Celebrex (celecoxib) etc. as these can all increase the risk of bleeding. Please consult with your healthcare team regarding use of these agents and all over the counter medications/supplements while on therapy.
- Do not floss or use toothpicks and use a soft-bristle toothbrush to brush your teeth.

**Low Red Blood Cell Count (Anemia)**
Your red blood cells are responsible for carrying oxygen to the tissues in your body. When the red cell count is low, you may feel tired or weak. You should let your oncology care team know if you experience any shortness of breath, difficulty breathing or pain in your chest. If the count gets too low, you may receive a blood transfusion.

**Fatigue**
Fatigue is very common during cancer treatment and is an overwhelming feeling of exhaustion that is not usually relieved by rest. While on cancer treatment, and for a period after, you may need to adjust your schedule to manage fatigue. Plan times to rest during the day and conserve energy for more important activities. Exercise can help combat fatigue; a simple daily walk with a friend can help. Talk to your healthcare team for helpful tips on dealing with this side effect.

**Nausea and/or Vomiting**
Talk to your oncology care team so they can prescribe medications to help you manage nausea and vomiting. In addition, dietary changes may help. Avoid things that may worsen the symptoms, such as heavy or greasy/fatty, spicy or acidic foods (lemons, tomatoes, oranges). Try saltines, or ginger ale to lessen symptoms.

Call your oncology care team if you are unable to keep fluids down for more than 12 hours or if you feel lightheaded or dizzy at any time.

**Liver Toxicity**
This medication can cause liver toxicity, which your oncology care team may monitor for using blood tests called liver function tests. Notify your healthcare provider if you notice yellowing of the skin or eyes, your urine appears dark or brown, or you have pain in your abdomen, as these can be signs of liver toxicity.

**Xerostemia (Dry mouth)**
This medication can cause xerostomia, also known as dry mouth. Xerostomia can be uncomfortable and can affect your speech, swallowing and dental health. Ways to manage this side effect include:

- Perform frequent oral hygiene with toothpaste containing fluoride.
- Floss once a day, if your care team says you can.
- Chew sugar free gum or suck on sugar free candy to stimulate saliva production.
- Rinse your mouth frequently to keep the mouth moist.
- Speak to your providers about over the counter and prescription gels and rinses that act as saliva replacement.
- Speak to your provider if this side effect continues to be a problem.

**Sialadentis (Infection of the Salivary Glands)**
This medication can cause an infection in the salivary glands in the mouth. Symptoms can include pain, tenderness, redness,
and swelling in the infected area. Contact your care team if you experience these symptoms.

**Decrease in Appetite or Taste Changes**

Nutrition is an important part of your care. Cancer treatment can affect your appetite and, in some cases, the side effects of treatment can make eating difficult. Ask your oncology care team about nutritional counseling services at your treatment center to help with food choices.

- Try to eat five or six small meals or snacks throughout the day, instead of 3 larger meals.
- If you are not eating enough, nutritional supplements may help.
- You may experience a metallic taste or find that food has no taste at all. You may dislike foods or beverages that you liked before receiving cancer treatment. These symptoms can last for several months or longer after treatment ends.
- Avoid any food that you think smells or tastes bad. If red meat is a problem, eat chicken, turkey, eggs, dairy products and fish without a strong smell. Sometimes cold food has less of an odor.
- Add extra flavor to meat or fish by marinating it in sweet juices, sweet and sour sauce or dressings. Use seasonings like basil, oregano or rosemary to add flavor. Bacon, ham and onion can add flavor to vegetables.

**Diarrhea**

Your oncology care team can recommend medications to relieve diarrhea. Also, try eating low-fiber, bland foods, such as white rice and boiled or baked chicken. Avoid raw fruits, vegetables, whole grain breads, cereals and seeds. Soluble fiber is found in some foods and absorbs fluid, which can help relieve diarrhea. Foods high in soluble fiber include: applesauce, bananas (ripe), canned fruit, orange sections, boiled potatoes, white rice, products made with white flour, oatmeal, cream of rice, cream of wheat, and farina. Drink 8-10 glasses of non-alcoholic, un-caffeinated fluid a day to prevent dehydration.

**Dizziness**

This medication can cause dizziness. It is important to take your time when changing positions. Contact your care provider if you have dizziness.

**Headache**

Your healthcare provider can recommend medications and other strategies to help relieve pain.

**Blood Pressure Changes**

This medication can cause high blood pressure (hypertension) or low blood pressure (hypotension). Patients should have their blood pressure checked regularly during therapy. Any blood pressure changes should be treated appropriately. Report any headaches, vision changes or dizziness to your oncology care team.

**Less common, but important side effects include:**

- **Secondary Cancer:** There is a low risk of developing MDS, acute leukemia or other type of cancer due to treatment with this medication, which can occur many years after treatment. Your oncology care team will provide instructions on how to best follow up and be monitored for this.
- **Hypothyroidism:** This medication can cause hypothyroidism (under active thyroid). Your healthcare provider will perform blood tests to check the function of your thyroid and treat this side effect if it develops. Symptoms of thyroid problems include: tiredness, feeling hot or cold, change in your voice, weight gain or loss, hair loss and muscle cramps. Report any of these symptoms to your oncology care team.
- **Kidney Problems:** This medication can cause kidney problems, including an increased creatinine level, which your oncology care team may monitor for using blood tests. Notify your healthcare provider if you notice decreased urine output, blood in the urine, swelling in the ankles, or loss of appetite.
- **Pneumonitis:** Patients can develop an inflammation of the lungs (called pneumonitis) while taking this medication. Notify your oncology care team right away if you develop any new or worsening symptoms, including shortness of breath, trouble breathing, cough or fever.

**Sexual and Reproductive Concerns**
This medication may affect your reproductive system, resulting in the menstrual cycle or sperm production becoming irregular or stopping permanently. Women may experience menopausal effects including hot flashes and vaginal dryness. In addition, the desire for sex may decrease during treatment. You may want to consider sperm banking or egg harvesting if you may wish to have a child in the future. Discuss these options with your oncology team.

Exposure of an unborn child to this medication could cause birth defects, so you should not become pregnant or father a child while on this medication. Effective birth control is necessary during treatment and for at least 7 months after treatment for women and during treatment and for 4 months after treatment for men who may father a child. Even if your menstrual cycle stops or you believe you are not producing sperm, you could still be fertile and conceive. You should not breastfeed while receiving this medication and for 80 days after receiving it.

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