



A Rare Moment in the Treatment of Advanced PPGL

AZEDRA[®] is the first and only FDA-approved treatment for patients 12 years and older with iobenguane scan positive, unresectable, locally advanced or metastatic pheochromocytoma or paraganglioma (PPGL) who require systemic anticancer therapy.¹

Important Safety Information

Warnings and Precautions:

Risk from radiation exposure: AZEDRA contributes to a patient's overall long-term radiation exposure. Long-term cumulative radiation exposure is associated with an increased risk for cancer. These risks of radiation associated with the use of AZEDRA are greater in pediatric patients than in adults. Minimize radiation exposure to patients, medical personnel, and household contacts during and after treatment with AZEDRA consistent with institutional good radiation safety practices and patient management procedures.

For important risk and use information about AZEDRA, please see the Full Important Safety Information on the back page and the accompanying [Full Prescribing Information](#).



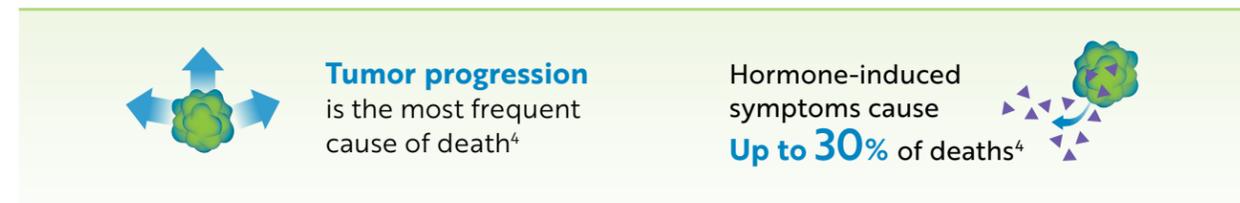
AZEDRA[®]
iobenguane | 131 injection for
intravenous use

AZEDRA is the first and only FDA-approved therapy for unresectable, locally advanced or metastatic PPGL

AZEDRA is approved for **adult and pediatric patients aged 12 and older** with a positive iobenguane scan¹

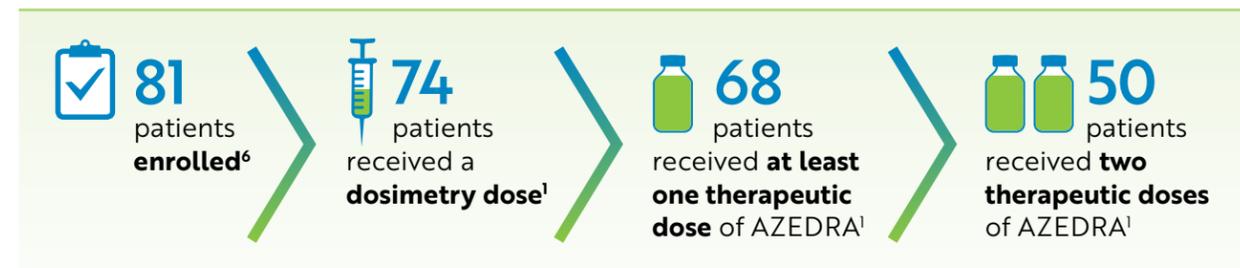
PPGL is a life-threatening disease with a serious burden for patients

- ▶ PPGL tumors frequently secrete high levels of hormones that can lead to **life-threatening high blood pressure, heart failure, and stroke**²
- ▶ Metastatic PPGL may result in unresectable disease with a poor prognosis, including a **five-year survival rate as low as 12%**³



The AZEDRA pivotal trial is the largest prospective study of patients with advanced PPGL to date^{1,5}

AZEDRA was studied in a Phase II, prospective, multicenter, open-label, single-arm trial^{1,5}



Important Safety Information

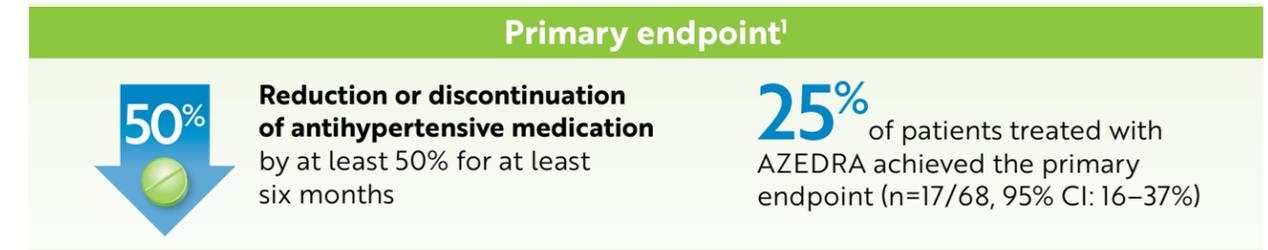
Warnings and Precautions:

Myelosuppression: Severe and prolonged myelosuppression occurred during treatment with AZEDRA. Among the 88 patients who received a therapeutic dose of AZEDRA, 33% experienced Grade 4 thrombocytopenia, 16% experienced Grade 4 neutropenia, and 7% experienced Grade 4 anemia. Five percent of patients experienced febrile neutropenia. Monitor blood cell counts weekly for up to 12 weeks or until levels return to baseline or the normal range. Withhold and dose reduce AZEDRA as recommended in the prescribing information based on severity of the cytopenia.

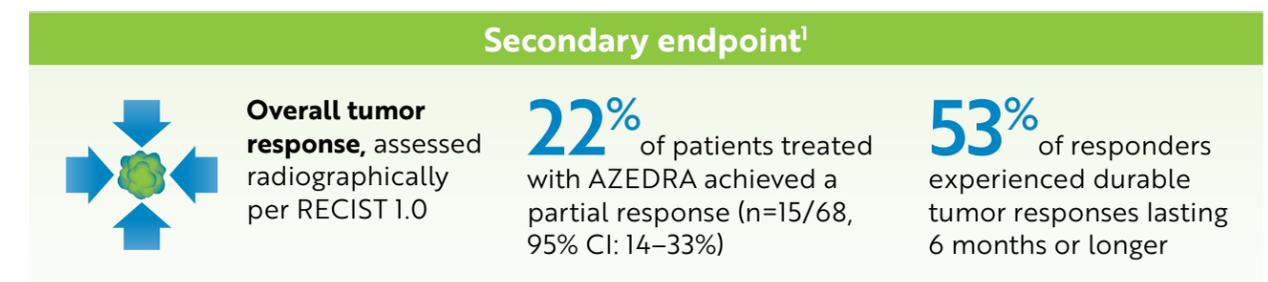
For important risk and use information about AZEDRA, please see the Full Important Safety Information on the back cover and the accompanying Full Prescribing Information.

References: 1. AZEDRA [prescribing information]. New York, NY: Progenics Pharmaceuticals, Inc.; 2018. 2. Martucci VL, Pacak K. *Curr Probl Cancer*. 2014;38(1):7-41. 3. Park J, Song C, Park M, et al. *Korean J Urol*. 2011;52:241-246. 4. Baudin E, Habra MA, Deschamps F, et al. *Eur J Endocrinol*. 2014;171(3):R111-R122. 5. Pryma DA, Chin BB, Noto RB, et al. *J Nucl Med*. 2018. 6. A study evaluating UltraTrace iobenguane I131 in patients with malignant relapsed/refractory pheochromocytoma/paraganglioma. ClinicalTrials.gov website. <https://clinicaltrials.gov/ct2/show/NCT00874614>. Updated December 4, 2017. Accessed January 23, 2018. 7. Referenced with permission from the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines[®]) for Neuroendocrine and Adrenal Tumors V.1.2019. © National Comprehensive Cancer Network, Inc. 2019. All rights reserved. Accessed April 9, 2019. To view the most recent and complete version of the guideline, go online to NCCN.org. NCCN makes no warranties of any kind whatsoever regarding their content, use or application and disclaims any responsibility for their application or use in any way.

AZEDRA was proven to reduce the need for antihypertensive medication



AZEDRA was shown to reduce the size of tumors



High-specific-activity (HSA) iobenguane I 131 (AZEDRA) is recommended as a primary treatment by the NCCN Clinical Practice Guidelines In Oncology (NCCN Guidelines[®])



NCCN Guidelines[®] recommend HSA iobenguane I 131 as a Category 2A primary treatment for patients with MIBG scan positive, locally unresectable or distant metastatic PPGL⁷

HSA iobenguane I 131 (AZEDRA) is the first and only FDA-approved therapy for advanced PPGL recognized by the NCCN Guidelines

Contact the AZEDRA Service Connection™



The AZEDRA Service Connection helps coordinate ordering and logistics and provides comprehensive patient services. For more information, contact: **1-844-AZEDRA1 (1-844-293-3721)**

Important Safety Information

Warnings and Precautions:

Secondary myelodysplastic syndrome, leukemia, and other malignancies: Myelodysplastic syndrome (MDS) and acute leukemias were reported in 6.8% of the 88 patients who received a therapeutic dose of AZEDRA. The time to development of MDS or acute leukemia ranged from 12 months to 7 years. Two of the 88 patients developed a non-hematological malignancy.



Indication

AZEDRA® (iobenguane I 131) is indicated for the treatment of adult and pediatric patients 12 years and older with iobenguane scan positive, unresectable, locally advanced or metastatic pheochromocytoma or paraganglioma who require systemic anticancer therapy.

Important Safety Information

Warnings and Precautions:

- ▶ **Risk from radiation exposure:** AZEDRA contributes to a patient's overall long-term radiation exposure. Long-term cumulative radiation exposure is associated with an increased risk for cancer. These risks of radiation associated with the use of AZEDRA are greater in pediatric patients than in adults. Minimize radiation exposure to patients, medical personnel, and household contacts during and after treatment with AZEDRA consistent with institutional good radiation safety practices and patient management procedures.
- ▶ **Myelosuppression:** Severe and prolonged myelosuppression occurred during treatment with AZEDRA. Among the 88 patients who received a therapeutic dose of AZEDRA, 33% experienced Grade 4 thrombocytopenia, 16% experienced Grade 4 neutropenia, and 7% experienced Grade 4 anemia. Five percent of patients experienced febrile neutropenia. Monitor blood cell counts weekly for up to 12 weeks or until levels return to baseline or the normal range. Withhold and dose reduce AZEDRA as recommended in the prescribing information based on severity of the cytopenia.
- ▶ **Secondary myelodysplastic syndrome, leukemia, and other malignancies:** Myelodysplastic syndrome (MDS) and acute leukemias were reported in 6.8% of the 88 patients who received a therapeutic dose of AZEDRA. The time to development of MDS or acute leukemia ranged from 12 months to 7 years. Two of the 88 patients developed a non-hematological malignancy.
- ▶ **Hypothyroidism:** Hypothyroidism was reported in 3.4% of the 88 patients who received a therapeutic dose of AZEDRA. Initiate thyroid-blocking medications starting at least 1 day before and continuing for 10 days after each AZEDRA dose to reduce the risk of hypothyroidism or thyroid neoplasia. Evaluate for clinical evidence of hypothyroidism and measure thyroid-stimulating hormone (TSH) levels prior to initiating AZEDRA and annually thereafter.
- ▶ **Elevations in blood pressure:** Eleven percent of the 88 patients who received a therapeutic dose of AZEDRA experienced a worsening of pre-existing hypertension defined as an increase in systolic blood pressure to ≥ 160 mmHg with an increase of 20 mmHg or an increase in diastolic blood pressure to ≥ 100 mmHg with an increase of 10 mmHg. All changes in blood pressure occurred within the first 24 hours post infusion. Monitor blood pressure frequently during the first 24 hours after each therapeutic dose of AZEDRA.
- ▶ **Renal toxicity:** Of the 88 patients who received a therapeutic dose of AZEDRA, 7% developed renal failure or acute kidney injury and 22% demonstrated a clinically significant decrease in glomerular filtration rate (GFR) measured at 6 or 12 months. Monitor renal function during and after treatment with AZEDRA. Patients with baseline renal impairment may be at greater risk of toxicity; perform more frequent assessments of renal function in patients with mild or moderate impairment. AZEDRA has not been studied in patients with severe renal impairment.
- ▶ **Pneumonitis:** Fatal pneumonitis occurred 9 weeks after a single dose in one patient in the expanded access program. Monitor patients for signs and symptoms of pneumonitis and treat appropriately.
- ▶ **Embryo-fetal toxicity:** Based on its mechanism of action, AZEDRA can cause fetal harm. Verify pregnancy status in females of reproductive potential prior to initiating AZEDRA. Advise females and males of reproductive potential of the potential risk to a fetus and to use effective contraception during treatment with AZEDRA and for 7 months after the final dose. Advise males with female partners of reproductive potential to use effective contraception during treatment and for 4 months after the final dose.
- ▶ **Risk of infertility:** Radiation exposure associated with AZEDRA may cause infertility in males and females. Radiation absorbed by testes and ovaries from the recommended cumulative dose of AZEDRA is within the range where temporary or permanent infertility can be expected following external beam radiotherapy.

Adverse Reactions:

The most common severe (Grade 3–4) adverse reactions observed in AZEDRA clinical trials ($\geq 10\%$) were lymphopenia (78%), neutropenia (59%), thrombocytopenia (50%), fatigue (26%), anemia (24%), increased international normalized ratio (18%), nausea (16%), dizziness (13%), hypertension (11%), and vomiting (10%). Twelve percent of patients discontinued treatment due to adverse reactions (thrombocytopenia, anemia, lymphopenia, nausea and vomiting, multiple hematologic adverse reactions).

Drug Interactions:

Based on the mechanism of action of iobenguane, drugs that reduce catecholamine uptake or that deplete catecholamine stores may interfere with iobenguane uptake into cells and therefore interfere with dosimetry calculations or the efficacy of AZEDRA. These drugs were not permitted in clinical trials that assessed the safety and efficacy of AZEDRA. Discontinue the drugs listed in the prescribing information for at least 5 half-lives before administration of either the dosimetry dose or a therapeutic dose of AZEDRA. Do not administer these drugs until at least 7 days after each AZEDRA dose.

For important risk and use information about AZEDRA, please see accompanying Full Prescribing Information.

To report suspected adverse reactions, contact Progenics Pharmaceuticals, Inc. at 844-668-3950 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

Reference: AZEDRA® prescribing information. New York, NY: Progenics Pharmaceuticals, Inc.; 08/2018.

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Pharmaceuticals
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AZEDRA[®]
iobenguane I 131 injection for intravenous use