November 2024

Innovating the future of cancer care to cure patients and preserve organ function

aura

Legal disclosure

This presentation contains forward-looking statements, all of which are qualified in their entirety by this cautionary statement. Many of the forward-looking statements contained herein can be identified by the use of forward-looking words such as "may", "anticipate", "believe", "could', "expect", "should", "plan", "intend", "estimate", "will", "potential" and "ongoing", among others, although not all forward-looking statements contain these identifying words. These forward-looking statements include statements about the initiation, timing, progress, results and cost of our research and development programs and our current and future preclinical studies and clinical trials, including statements regarding the timing of initiation and completion of studies or trials and related preparatory work, the period during which the results of the trials will become available and our research and development programs; statements regarding our expectations for an improved quality of life of patients after treatment with bel-sar and changes to the treatment paradigm for patients; our ability to successfully manufacture our drug substances and product candidates for preclinical use, for clinical trials and on a larger scale for commercial use, if approved; the ability and willingness of our third-party strategic collaborators to continue research and development activities relating to our development candidates and product candidates; our ability to commercialize our products, if approved; our ability to obtain funding for our operations necessary to complete further development and commercialization of our product candidates; our ability to obtain and maintain regulatory approval of our product candidates; the size and growth potential of the markets for our product candidates and our ability to serve those markets; our financial performance; our expected cash runway into the second half of 2026; and the implementation of our business model, including strategic plans for our business and product candidates.

Except as otherwise noted, these forward-looking statements speak only as of the date of this presentation, and we undertake no obligation to update or revise any of such statements to reflect events or circumstances occurring after this presentation. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified and some of which are beyond our control, you should not rely on these forward-looking statements as predictions of future events. For a discussion of these and other risks and uncertainties, and other important factors, any of which could cause our actual results to differ from those contained in the forward-looking statements, see the section entitled "Risk Factors" in our most recent Annual Report on Form 10-K and Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission (SEC), as well as discussions of potential risks, uncertainties, and other important factors in our other subsequent filings with the SEC, which are available on the SEC's website at www.sec.gov. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. We caution you not to place undue reliance on the forward-looking statements contained in this presentation.

This presentation discusses product candidates that are under preclinical or clinical evaluation and that have not yet been approved for marketing by the U.S. Food and Drug Administration (FDA) or any other regulatory authority. Until finalized in a clinical study report, clinical trial data presented herein remain subject to adjustment as a result of clinical site audits and other review processes. No representation is made as to the safety or effectiveness of these product candidates for the use for which such product candidates are being studied.

This presentation shall not constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of these securities in any state or other jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state or other jurisdiction.

Well positioned with multiple near-term clinical catalysts

Novel class of drugs virus-like drug conjugates

VDCs have the potential to transform early cancer treatment

Novel MoA: direct tumor cell killing and immune cell activation

Positive clinical data in multiple indications

Positive phase 2 data in early-stage choroidal melanoma with phase 3 ongoing under FDA SPA agreement

Multiple clinical complete responses with single low dose in ongoing phase 1 trial in NMIBC

Large market opportunity in areas of unmet need

Ocular oncology
>60,000 patients/yr (US/EU)[1–7]

Urologic oncology
~500,000 patients/yr (globally)[8]

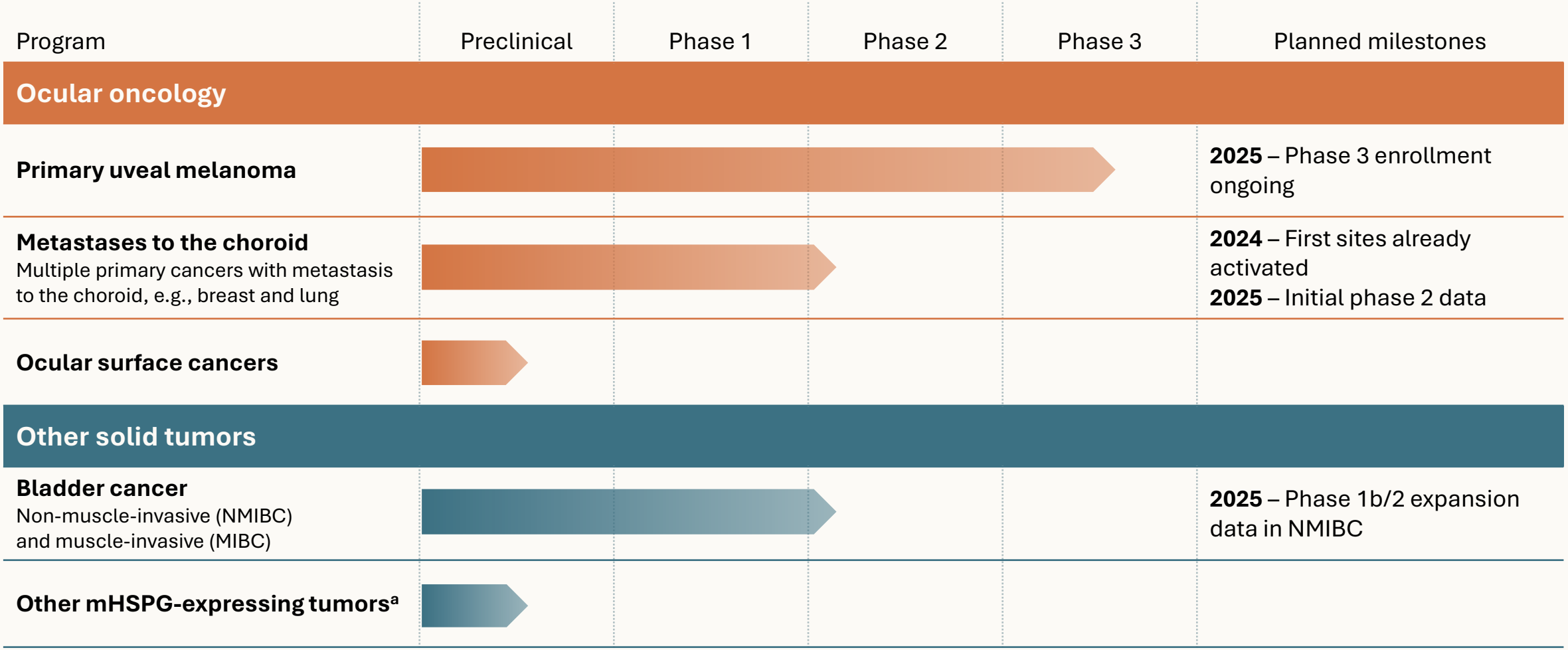
Key upcoming catalysts

Multiple clinical data readouts expected in 2025: phase 1b/2 expansion data in NMIBC and initial phase 2 data in metastases to the choroid

Cash expected to fund operations into 2H 2026

1. Yu G-P et al. *Am J Ophthalmol.* 2003;135(6):800-6. **2.** Triay E et al. *Br J Ophthalmol.* 2009;93(11):1524-8. **3.** Newton R et al. *Lancet.* 1996;347(9013):1450-1. **4.** Dalvin LA. *Br J Ophthalmol.* 2018;102(12):1728-1734. **5.** Sun EC et al. *Cancer Epidemiol Biomarkers Prev.* 1997;6(2):73-7. **6.** Epidemiology analysis for choroidal melanoma and choroidal metastasis by ClearView Healthcare Partners and Putman. **7.** American Cancer Society. Key statistics for retinoblastoma. Available at: https://www.cancer.org/cancer/types/retinoblastoma/about/key-statistics.html. Accessed Sept 5, 2024. **8.** Bladder cancer. Putnam & Assoc. Epidemiology Analysis.
FDA, United States Food and Drug Administration; **SPA**, Special Protocol Assessment; **VDC,** Virus-like drug conjugate, **MoA,** Mechanism of action; **NMIBC,** Non-muscle-invasive bladder cancer

Clinical pipeline across multiple solid tumor indications



*Virus-like drug conjugates (VDCs) bind to a subset of modified tumor associated glycosaminoglycans (GAGs) that are part of the heparan sulphate chain of heparan sulfate proteoglycans (HSPGs).[1]

1. Kines RC, and Schiller JT. *Viruses.* 2022;14(8):1656. **mHSPG**, modified heparan sulphate proteoglycan; **MIBC**, muscle invasive bladder cancer; **NMIBC**, non-muscle-invasive bladder cancer; **YE**, year-end.

Bel-sar is a potential first-in-class therapy for multiple solid tumors

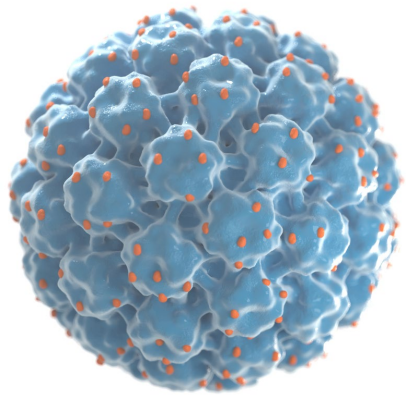
Virus-like drug conjugates have the potential to transform early cancer treatment

Unique tumor selectivity

Targets a key receptor molecule expressed in the early stages of malignant tumor transformation

Dual MoA

Targeted cytotoxicity and immune activation; potential to generate lasting anti-tumor T-cell memory



Tumor and mutation-agnostic

>100 cell lines
>15 animal tumor models

High potency

~200 cytotoxic molecules per VLP; demonstrated picomolar efficacy in multiple animal tumor models

Positive clinical data in multiple early-stage local cancers

- **Choroidal melanoma:** Positive phase 2 end of study data; phase 3 ongoing
- **NMIBC:** Positive early phase 1 data; phase 1b/2 trial expansion planned

Favorable safety profile

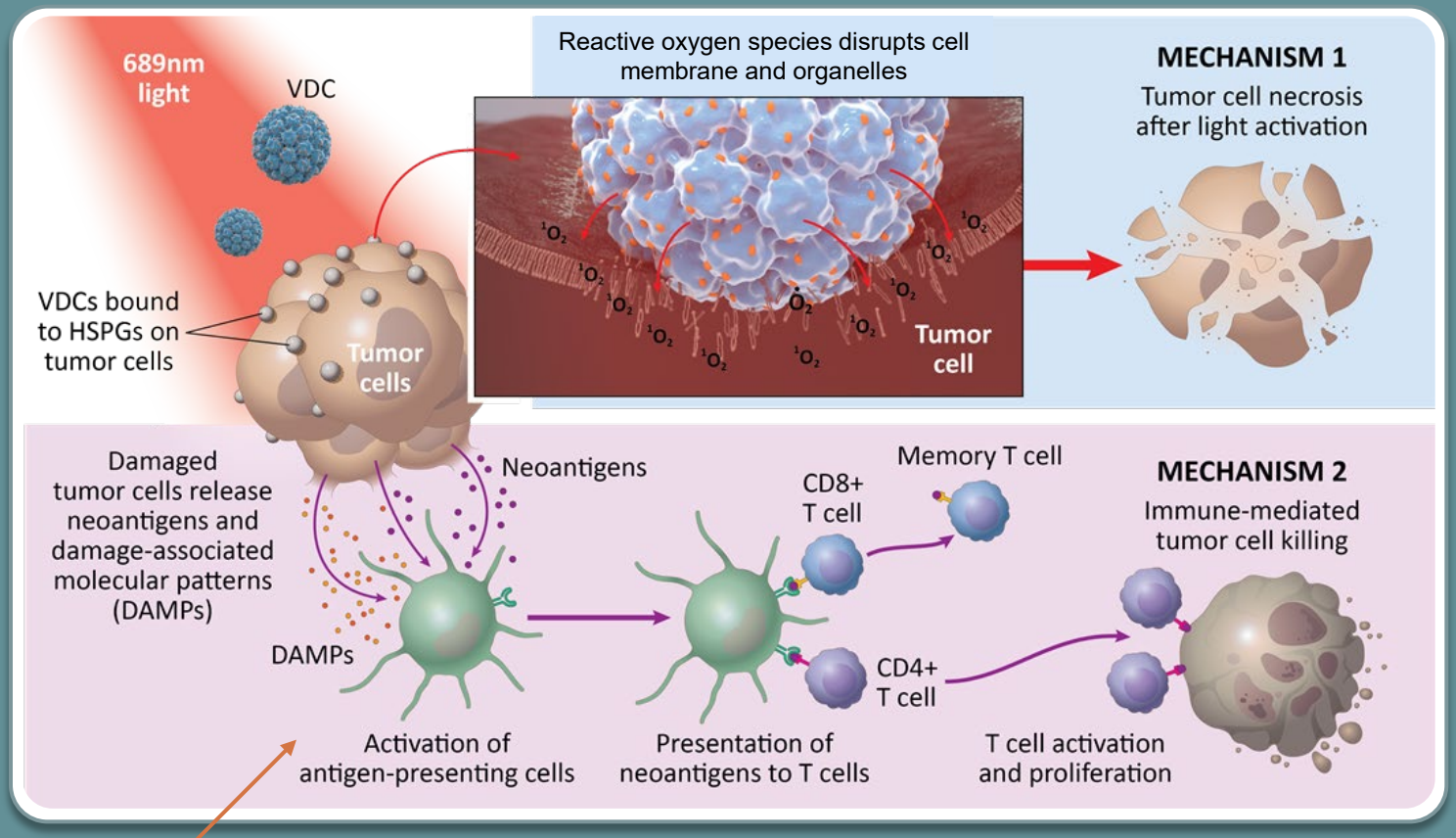
No treatment-related SAEs and no DLTs reported in phase 2 choroidal melanoma trial or early data readout of NMIBC trial

DLT, dose-limiting toxicity; **MoA**, mechanism of action; **NMIBC**, non-muscle-invasive bladder cancer; **SAE**, serious adverse event; **VLP**, virus-like particle.

AU-011 has a novel dual mechanism of action

Disruption of the tumor cell membrane and pro-immunogenic cell death by necrosis leads to T cell activation and immune-mediated tumor cell killing

VLPs bind to macrophages, B cells, dendritic cells and neutrophils and are capable of **stimulating antigen-presenting cells** through TLR-4 engagement and NFk-β production



Release of **DAMPs** induces **anti-tumor immunity**

AU-011 treatment is designed to be cytopathic to resident suppressor cells, reducing the immune-suppressive microenvironment and contributing to **anti-tumor immunity**

Kines RC, et al. *Int J Cancer*. 2016;138(4):901–11. Kines RC, et al. *Mol Cancer Ther*. 2018;17(2):565–74. Kines RC, et al. *Cancer Immunol Res*. 2021;9:693–706.
DAMPs, damage-associated molecular patterns; **HSPG**, heparan sulfate proteoglycan; **VDC**, virus-like drug conjugate; **VLP**, virus-like particle.

Ocular Oncology

Bel-sar target indications:

Primary uveal melanoma | Metastases to the choroid | Ocular surface cancers

Bel-sar opportunities in ocular oncology represent a multi-billion-dollar addressable market

- With only ~100 ocular oncologists in the US/EU, a global launch may be accomplished with a small (<20) field-based team

~66,000 patients/year

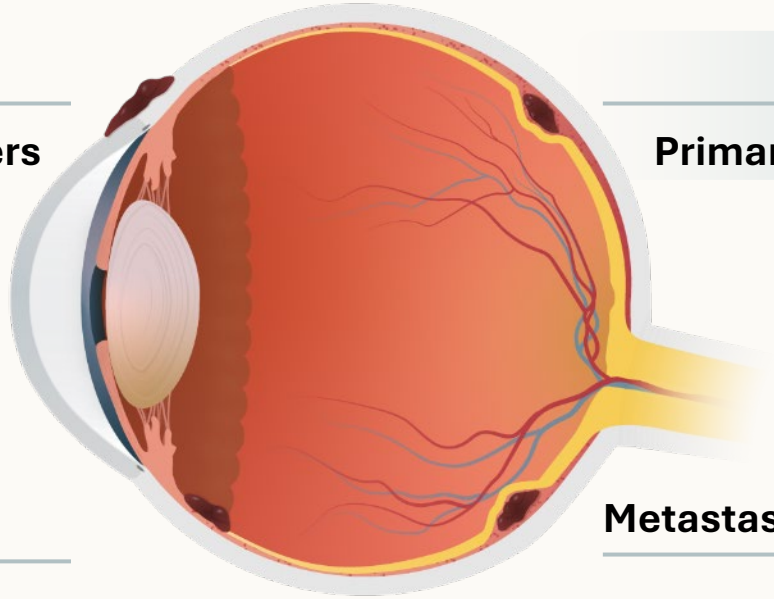
Ocular oncology franchise total addressable market (US/EU)

~35,000/yr[a,1–5]

Ocular surface cancers

~11,000/yr[6]

Primary uveal melanoma



Retinoblastoma

~500/yr[7]

Metastases to the choroid

~20,000/yr[6]

[a]Includes conjunctival melanoma, primary acquired melanosis, squamous cell carcinoma and ocular surface squamous neoplasia.[1-5]

1. Yu G-P et al. *Am J Ophthalmol.* 2003;135(6):800-6. **2.** Triay E et al. *Br J Ophthalmol*. 2009;93(11):1524-8. **3.** Newton R et al. *Lancet*. 1996;347(9013):1450-1. **4.** Dalvin LA. *Br J Ophthalmol*. 2018;102(12):1728-1734. **5.** Sun EC et al. *Cancer Epidemiol Biomarkers Prev.* 1997;6(2):73-7. **6.** Epidemiology analysis for choroidal melanoma and choroidal metastasis by ClearView Healthcare Partners and Putman. **7.** American Cancer Society. Key statistics for retinoblastoma. Available at: https://www.cancer.org/cancer/types/retinoblastoma/about/key-statistics.html. Accessed Sept 5, 2024.

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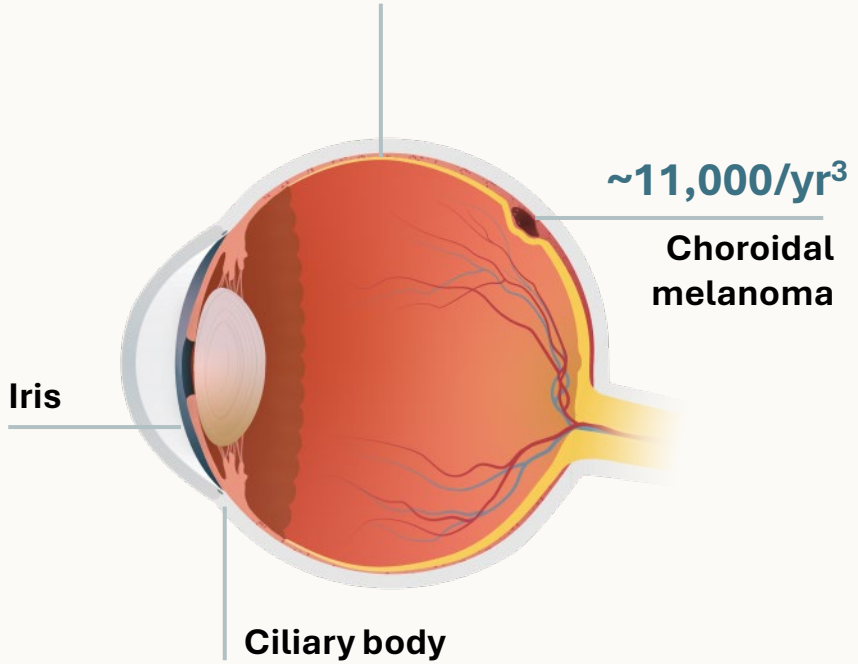
Bel-sar is in phase 3 for primary uveal melanoma, the most common primary intraocular cancer in adults

- Primary uveal melanoma is a high unmet medical need
- With no approved vision-preserving therapies, the current standard-of-care is radiotherapy – treatment that leads to legal blindness[4,5]

Choroid is 90%
of the uvea[1]



Uvea: Choroid, ciliary body and iris

Most common primary intraocular cancer in adults[2,3]

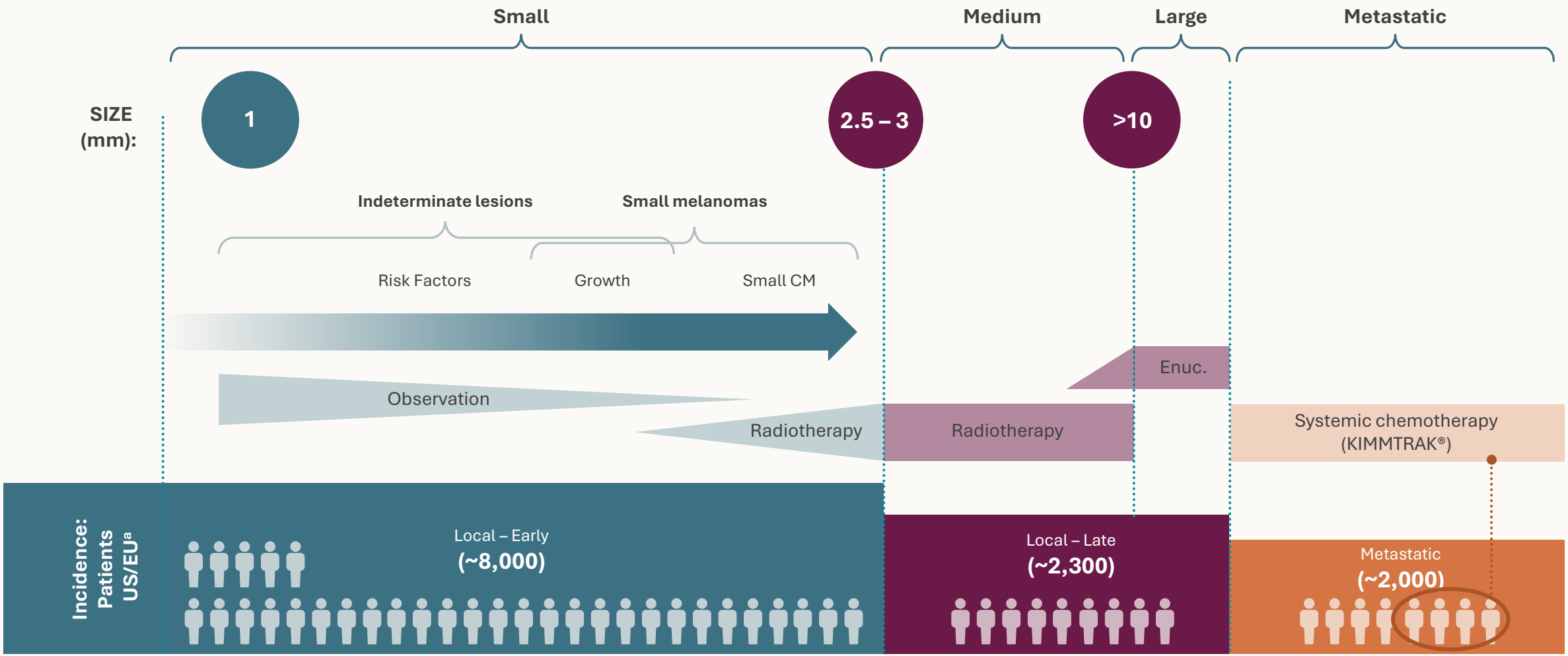
~80% of patients diagnosed with **early-stage disease**[3]

50% of patients **develop metastasis** within 15 years (metastatic uveal melanoma)[2]

Bel-sar has the potential to provide a treatment option that preserves vision

1. Heiting, G. Iris/uvea of the eye. Available at: https://www.allaboutvision.com/en-gb/resources/uvea-iris-choroid/. Accessed Oct. 3, 2023. **2.** Kaliki S and Shields CL. *Eye (Lond).* 2017;31(2):241-257. **3.** Epidemiology analysis for choroidal melanoma and choroidal metastasis by ClearView Healthcare Partners and Putman. **4.** Jarczak J, Karska-Basta I, Romanowska-Dixon B. Deterioration of visual acuity after brachytherapy and proton therapy of uveal melanoma, and methods of counteracting this complication based on recent publications. Medicina (Kaunas). 2023;59(6):1131. **5.**. Tsui I, Beardsley RM, McCannel TA, Oliver SC, et al. Visual acuity, contrast sensitivity and color vision three years after iodine-125 brachytherapy for choroidal and ciliary body melanoma. Open Ophthalmol J. 2015;9:131-5.

Current treatment paradigm for primary uveal melanoma

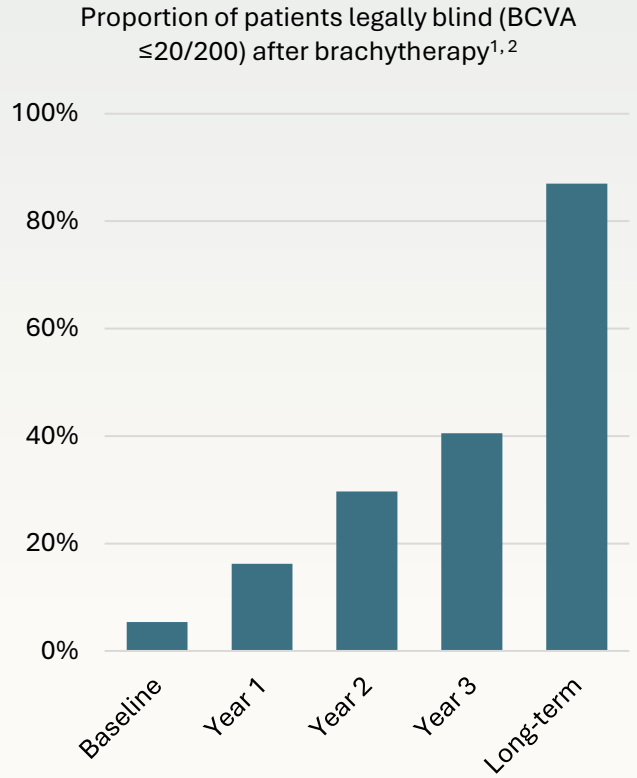


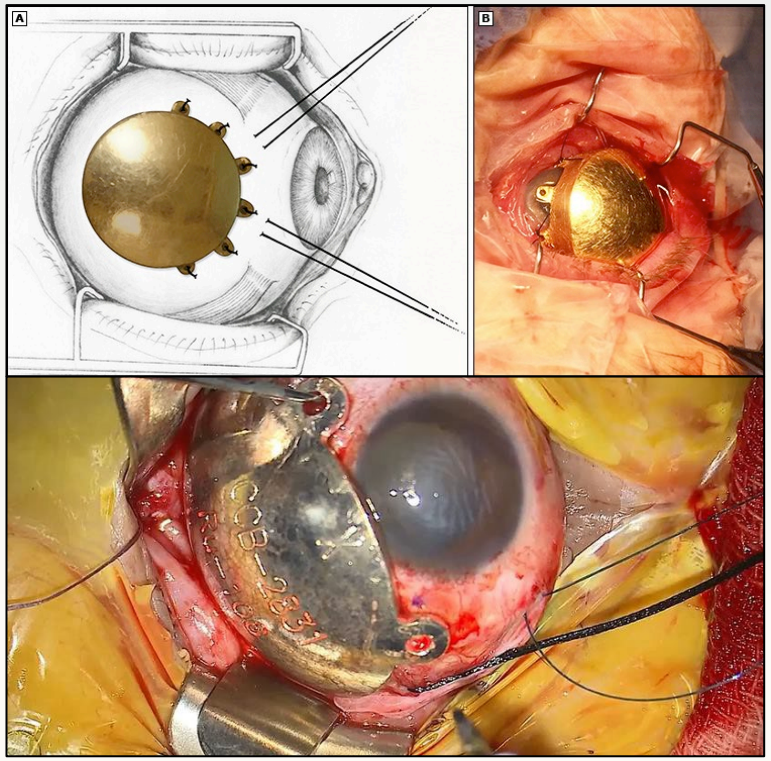
[a]Each figure represents ~250 persons.

Shields CL et al. Choroidal and ciliary body melanoma. Available at: https://eyewiki.aao.org/Choroidal_and_Ciliary_Body_Melanoma Accessed September 9, 2024. Singh AD, et al. *Ophthalmology.* 2005;112(10):1784–89. Epidemiology analysis for choroidal melanoma and choroidal metastasis by ClearView Healthcare Partners and Putman. **CM**, choroidal melanoma; **Enuc.**, enucleation.

High morbidity associated with current standard of care

Up to 87% of primary uveal melanoma patients become legally blind over time in the eye treated with radiotherapy[1,2]





	Radiotherapy[3–6]
Adverse Event	
Surgeries secondary to AEs (e.g., cataracts)	40%+
Radiation retinopathy	40%+
Neovascular glaucoma	10%
Dry eye syndrome	20%
Strabismus	2%+
Retinal detachment	1–2%
Vision loss (≥15 letters)	~70%
Long-term legal blindness (≤20/200)	~90%
Serious Adverse Event	
Scleral necrosis	0–5%
Enucleation/eye loss	10–15%
Severe vision loss (≥30 letters) in HRVL	~90%

1. Jarczak J et al. *Medicina (Kaunas).* 2023;59(6):1131. **2.** Tsui I, et al. *Open Ophthalmol J.* 2015;9:131–5. **3.** Shields CL, et al. *Arch Ophthalmol.* 2000;118(9):1219–1228. **4.** Peddada KV, et al. *J Contemp Brachytherapy.* 2019;11(4):392–397. **5.** Shields CL et al. *Curr Opin Ophthalmol.* 2019;30(3):206–214. **6.** Kaliki S, Shields CL. *Eye.* 2017;31(2):241–257. **AE**, adverse event; **BCVA**, best-corrected visual acuity; **HRVL**, high-risk for vision loss.

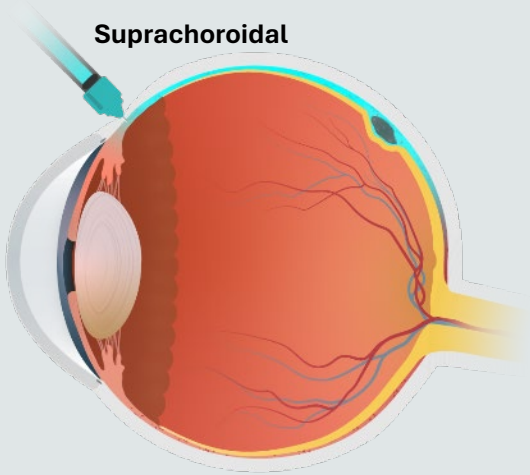
Bel-sar has the potential to be the first approved vision-preserving therapy in primary uveal melanoma

Treatment Goals

- Local tumor control
- Vision preservation
- No radiation-related morbidity
- Reduce metastasis risk with early treatment
- Improve safety and quality of life

In-office procedure

Delivery via suprachoroidal injection



Two injections (2 min. each) 30 min. apart

Light activation with standard ophthalmic laser

10-30 min. procedure

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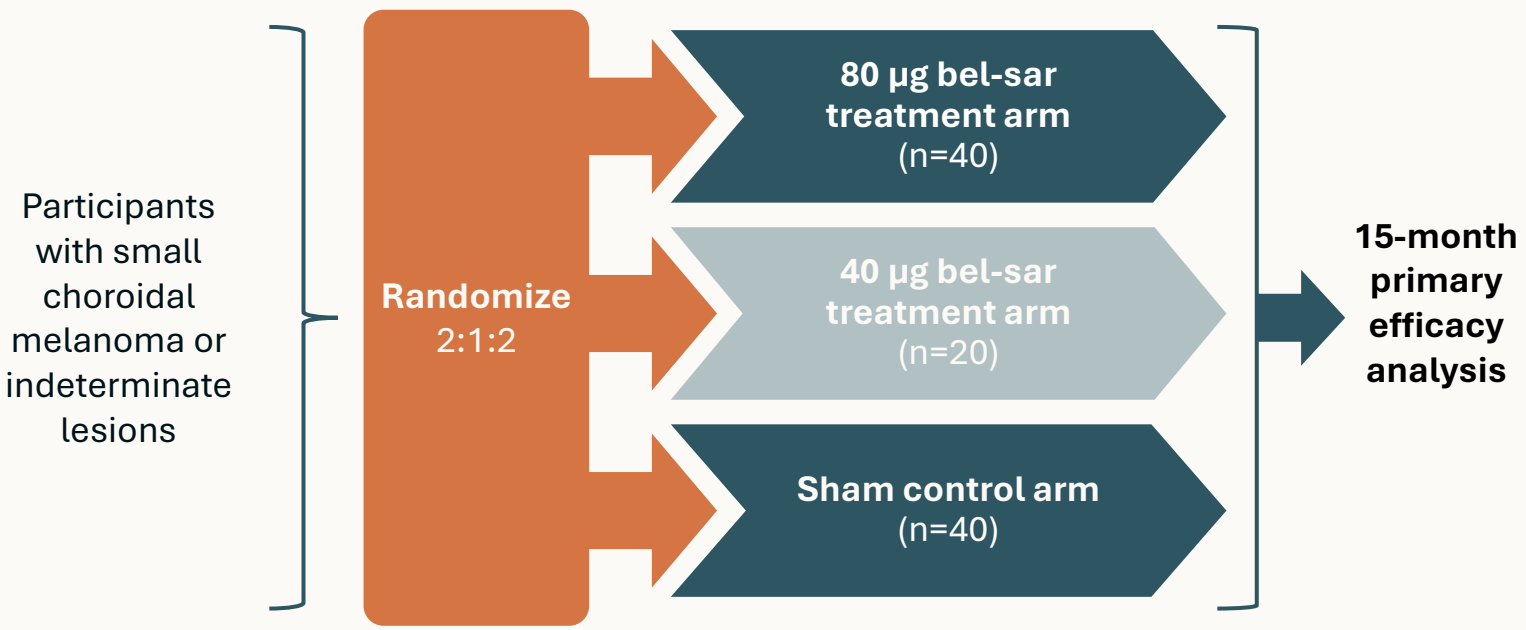
Bel-sar for small choroidal melanoma or indeterminate lesions: Global phase 3 CoMpass trial now enrolling

Target enrollment ~100 participants globally

Anticipated sites in North America, Europe, Middle East and Asia-Pacific Regions



Primary endpoint

Time to tumor progression

Increase in tumor thickness ≥0.5 mm or ≥1.5 mm in LBD

First key secondary endpoint

Time to composite endpoint: Tumor progression or visual acuity failure

Increase in tumor thickness ≥0.5 mm or ≥1.5 mm in LBD **OR** ≥15 decrease in ETDRS-BCVA letter score from baseline

Received **fast track** and **orphan drug designations**

An **SPA agreement** indicates concurrence by the FDA that the design of the trial can adequately support a regulatory submission

BCVA, best-corrected visual acuity; **ETDRS,** Early Treatment Diabetic Retinopathy Study; **LBD**, largest basal diameter; **SPA**, Special Protocol Assessment.
ClinicalTrials.gov Identifier: NCT06007690; AU-011-301.

Phase 2 end of study data represented using planned phase 3 endpoints

Kaplan-Meier analysis simulation of time-to-event

Time to tumor progression

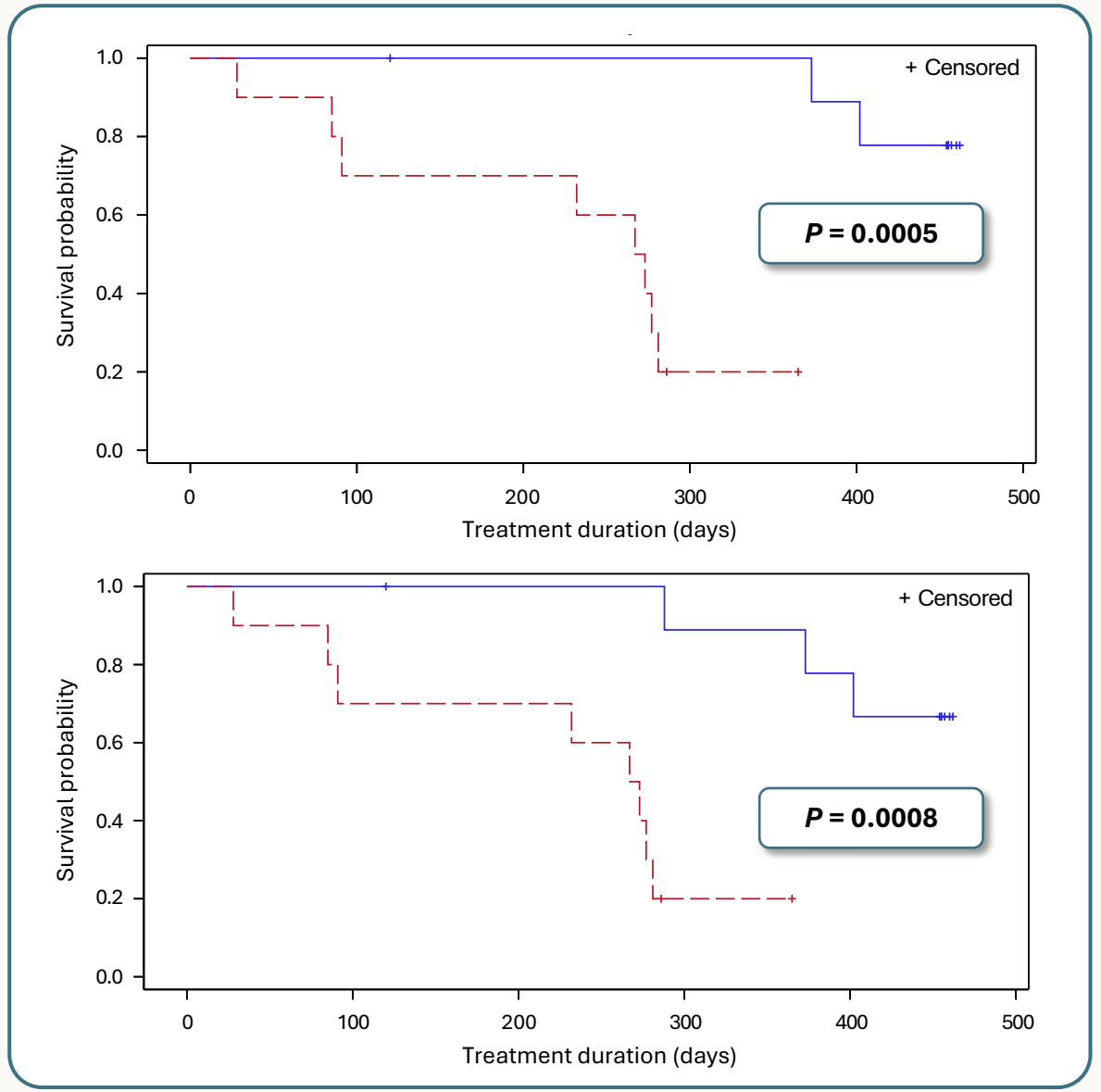
Change from baseline in thickness ≥0.5 mm; or in LBD ≥1.5 mm confirmed by at least one repeat assessment

Therapeutic n=10

Subtherapeutic n=10

Time to composite endpoint

Time to tumor progression or vision acuity failure (≥15 letter loss in ETDRS-BCVA), whichever occurs earlier



Study duration 12 months. Participants either had an event or were censored at the last visit; some had their Week 52 visit after 365 days. Any events at the final visit are assigned to the actual time of that visit. Log-rank test *p*-value based on unsimulated original Kaplan-Meier curves. **BCVA,** best-corrected visual acuity; **ETDRS,** Early Treatment Diabetic Retinopathy Study; **LBD,** largest basal diameter. ClinicalTrials.gov Identifiers: NCT04417530; AU-011-202 (phase 2); NCT06007690; AU-011-301 (phase 3).
Data on file, Aura Biosciences.

Bel-sar opportunities in ocular oncology represent a multi-billion-dollar addressable market

- With only ~100 ocular oncologists in the US/EU, a global launch may be accomplished with a small (<20) field-based team

~66,000 patients/year

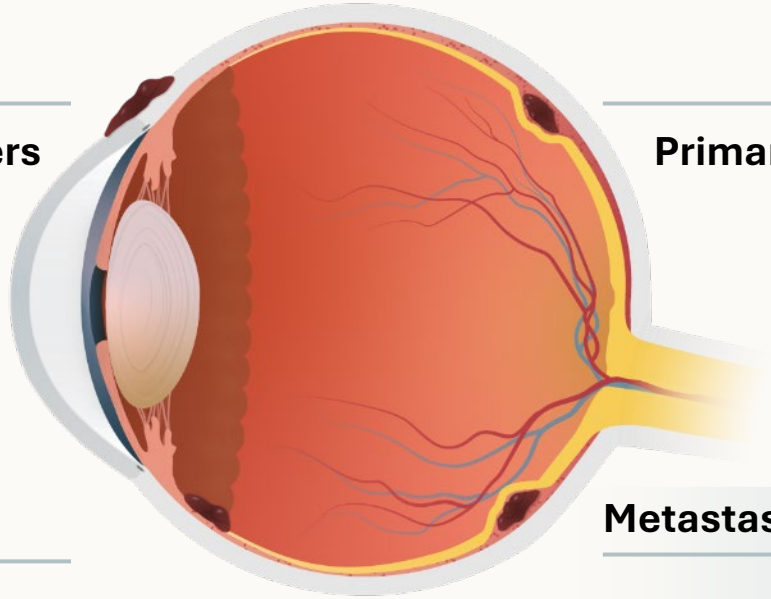
Ocular oncology franchise total addressable market (US/EU)

~35,000/yr[a,1–5]

Ocular surface cancers

~11,000/yr[6]

Primary uveal melanoma



Retinoblastoma

~500/yr[7]

Metastases to the choroid

~20,000/yr[6]

[a]Includes conjunctival melanoma, primary acquired melanosis, squamous cell carcinoma and ocular surface squamous neoplasia.[1-5]

1. Yu G-P et al. *Am J Ophthalmol*. 2003;135(6):800-6. **2.** Triay E et al. *Br J Ophthalmol*. 2009;93(11):1524-8. **3.** Newton R et al. *Lancet*. 1996;347(9013):1450-1. **4.** Dalvin LA. *Br J Ophthalmol*. 2018;102(12):1728-1734. **5.** Sun EC et al. *Cancer Epidemiol Biomarkers Prev*. 1997;6(2):73-7. **6.** Epidemiology analysis for choroidal melanoma and choroidal metastasis by ClearView Healthcare Partners and Putman. **7.** American Cancer Society. Key statistics for retinoblastoma. Available at: https://www.cancer.org/cancer/types/retinoblastoma/about/key-statistics.html. Accessed Sept 5, 2024.

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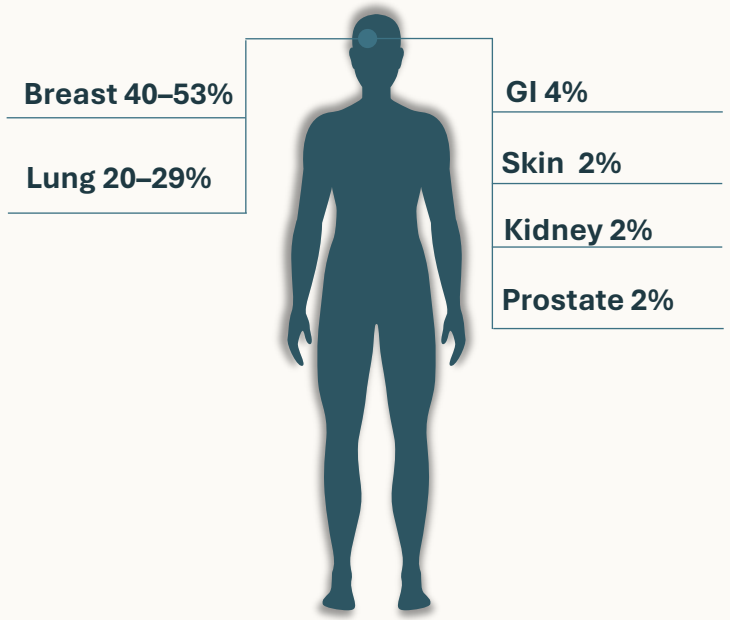
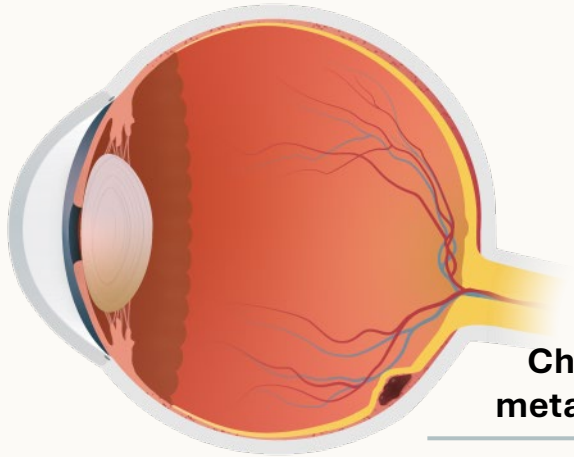
Metastases to the choroid is a high unmet medical need and potentially doubles the ocular oncology market opportunity

Metastases to the choroid decrease vision and quality of life in patients fighting metastatic cancer

Metastases to the choroid originate from multiple primary cancers[1]



~1/4 of patients have tumors bilaterally[2]



Choroidal metastases

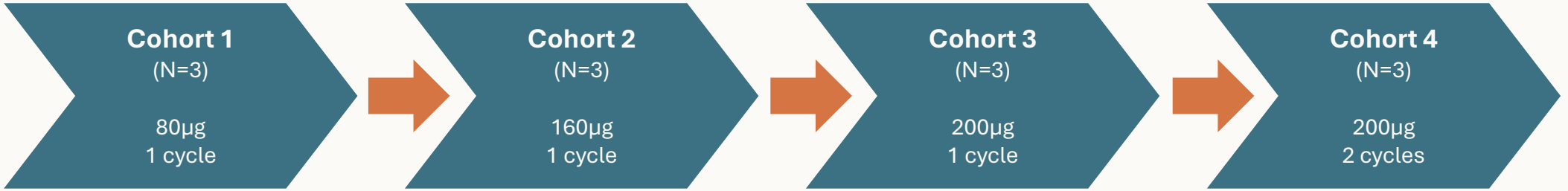
~20,000/yr (US/EU)[3]

Standard of care is **daily radiotherapy for up to 4 weeks**,[4] with a high burden to patients and radiation-associated complications

1. Mathis T et al. *Prog Ret Eye Res*. 2019;68:144-176. **2.** Shields CL et al. *Ophthalmology*. 1997;104(8):1265-76. **3.** Epidemiology analysis for choroidal melanoma and choroidal metastasis by ClearView Healthcare Partners and Putman. **4.** Cohen VML. *Eye (Lond)*. 2013;27(2):137-41. **GI,** gastrointestinal.

Metastases to the choroid: first sites activated

Study Design (n=12*)



Study Objectives

- Safety/dose-limiting toxicity
- Efficacy
  - Change in tumor size
  - Change in vision letter score

Study Population

- Patients with unilateral, unifocal metastases to the choroid
- Breast or lung primary
- No changes in concurrent systemic medications planned

Highlights: Primary endpoint at one-month post-treatment; possibility to see tumor shrinkage and vision improvement

*3+3 Design. Each cohort to have a minimum of 3 and a maximum of 6 patients
**Simplified schema of study design.

Urologic Oncology

Bel-sar target indications:

Non-muscle-invasive bladder cancer | Muscle-invasive bladder cancer

Bladder cancer: High unmet medical need for function-preserving organ-sparing therapies

9th most common cancer worldwide[1]

>600,000 cases/year globally[1]

614,298 diagnosed in 2022[1]
(>7% increase from 2020)[1,2]

Ranked 13th for mortality[1]

One of the highest lifetime treatment costs of all cancers

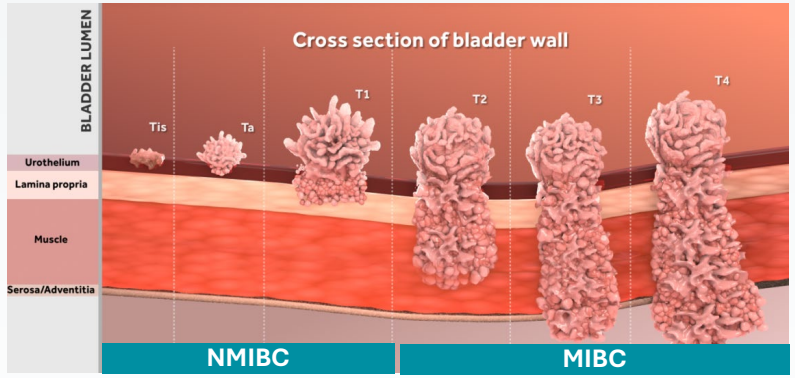
>$6 billion
Annual cost of treatment in US[5]

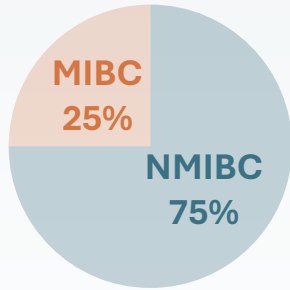
Conventional bladder cancer treatments are suboptimal

- *Short- and long-term side effects*
- *Considerable impact on QoL*
- *Inadequate efficacy*
- *Multiple TURBT surgeries*
- *Disease progression/metastasis*
- *Loss of bladder/cystectomy*

84% of patients do not complete a full course of BCG treatment[6]

Patients are receiving fewer courses of BCG due to global shortage[7]



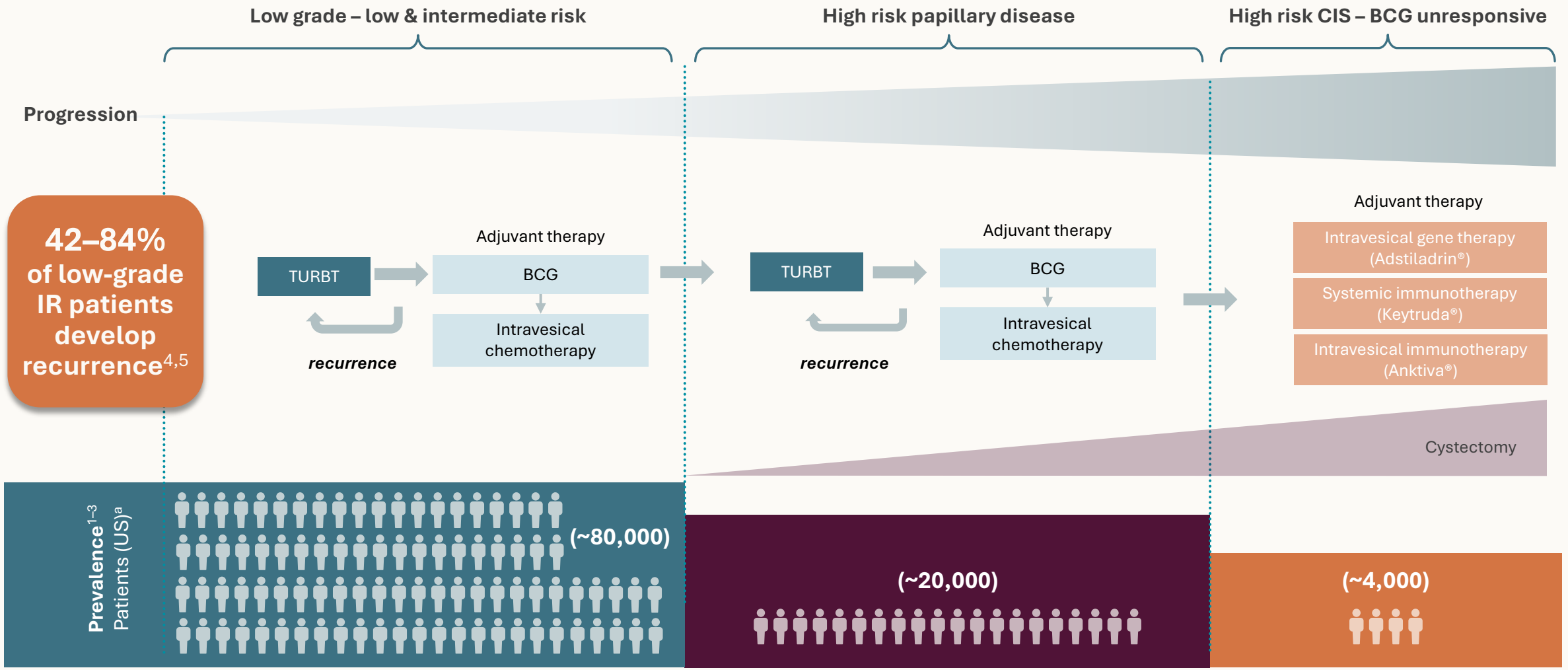


The majority of bladder cancer patients present with NMIBC[3]

~70-80% of patients with NMIBC develop recurrence after treatment[8]

1. GLOBOCAN 2022. Bladder. Available at: https://gco.iarc.who.int/media/globocan/factsheets/cancers/30-bladder-fact-sheet.pdf. [Accessed October 1, 2024]. **2.** Sung H, et al. *CA Cancer J Clin*. 2021;71(3):209–49. **3.** Burger M, et al. *Eur Urol*. 2013;63(2):234–41. **4.** Flaig TW, et al. *J Natl Compr Canc Netw*. 2018;16(9):1041–53. **5.** Clark O, et al. *Pharmacoecon Open*. 2024 Aug 18. doi: 10.1007/s41669-024-00512-8. [Online ahead of print]. **6.** Lamm DL, et al. *J Urol*. 2000;163(4):1124-9. **7.** Shore ND, et al. *Urol Oncol*. 39(10):642–63. **8.** Shalata AT, et al. *Cancers (Basel)*. 2022;14(20):5019. **BCG**, Bacillus Calmette-Guerin; **MIBC**, muscle-invasive bladder cancer. **QoL**, quality of life; **TURBT,** transurethral resection of bladder tumor.

High risk of recurrence and progression with current treatments for NMIBC



[a]Each figure represents 1000 persons.

1. Holzbeierlein JM et al. *J Urol.* 2024;212(1):3–10. **2.** Holzbeierlein JM et al. *J Urol.* 2024 Apr;211(4):533-538. **3.** Internal Aura epidemiology of market size; data on file. **4.** Shalata AT, et al. *Cancers (Basel).* 2022;14(20):5019. **5.** van Rhijn BWG, et al. *Eur Urol.* 2009;56(3):430–42.

BCG, Bacillus Calmette-Guérin; **CIS**, carcinoma in situ; **IR,** intermediate risk; **NMIBC**, non-muscle-invasive bladder cancer; **TURBT**, transurethral resection of bladder tumor.

AU-011 as a potential front-line immune ablative therapy in NMIBC

AU-011 has a dual mechanism of action and can potentially reduce the treatment burden

Treatment goals

- Focal treatment with direct tumor cell killing
- Stimulate broad anti-tumor T cell response
- Front-line early intervention for local disease
- Decreased treatment burden with favorable safety profile
- Reduce risk of recurrence and progression
- Avoid TURBT/operating room

NMIBC, non–muscle-invasive bladder cancer; **TURBT,** transurethral resection of bladder tumor.

AU-011 administration and activation may be optimized for the urology clinic

Local administration of AU-011 is aligned with current practice in urology offices

In-office procedure

Local cystoscopic administration of drug with standard cystoscopy needle

<5 minutes

Laser light activation

<10 minutes total laser time

<15 minutes total procedure time

Familiar procedures for urologists
Bladder injections (e.g. botox) and laser application are commonly used

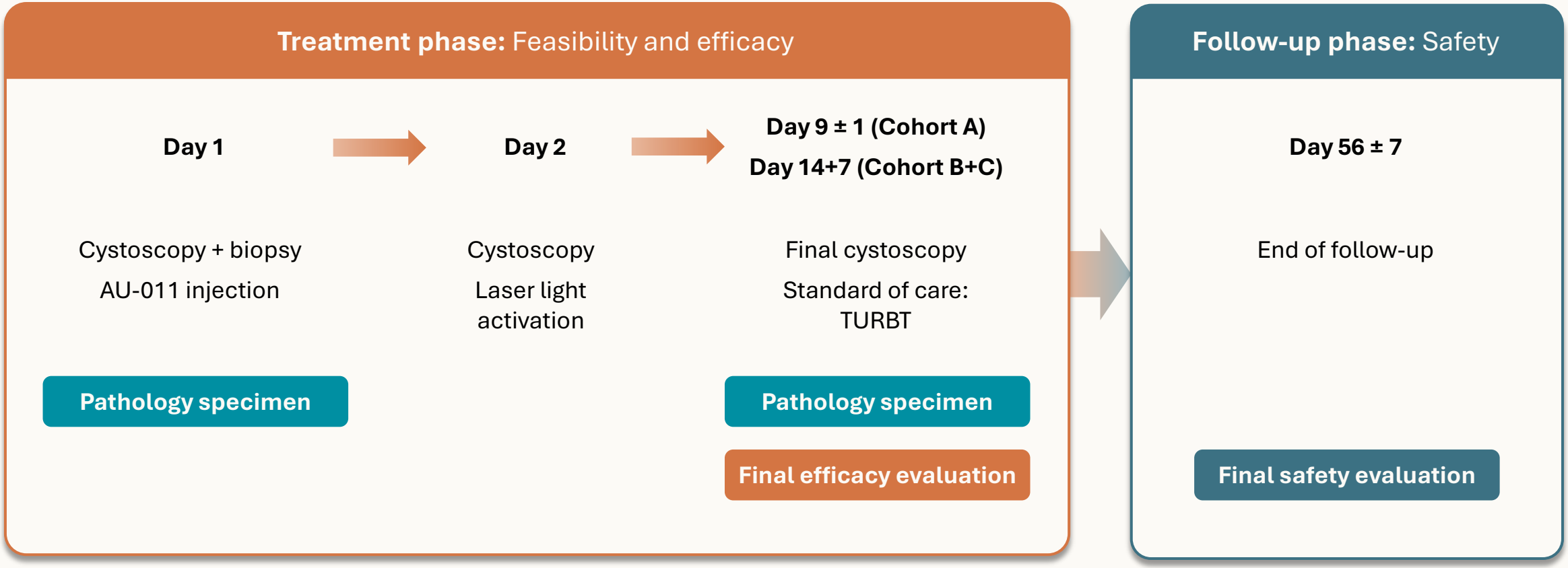
No general anesthesia
AU-011 treatment may be feasible for patients with contraindications for general anesthesia/TURBT (e.g., comorbidities)

No requirement for additional safety precautions in drug handling
No viral replication or shedding

TURBT, transurethral resection of bladder tumor.

Window of opportunity study: AU-011 administered between scheduled biopsy and standard TURBT

Clinical response data up to 21 days; safety data up to 56 days



TURBT, transurethral resection of bladder tumor.
Clinicaltrials.gov identifier: NCT05483868; AU-011-102.

Phase 1 trial of AU-011 for bladder cancer designed to evaluate safety, feasibility, and mechanism of action

Single dose window of opportunity study in NMIBC all-comers

Histopathological assessment completed at time of standard of care TURBT

Part 1 (n=5)

AU-011 alone

Drug only (No light)

Total 100 µg

NMIBC (N=5)

50 µg at tumor base
50 µg within lamina propria

Part 2 (n=~10)

AU-011 + focal light activation

Cohort A: Drug + light

Total 100 µg

NMIBC (N=4)

50 µg at tumor base
50 µg within lamina propria

Cohort B: Drug + light

Total 100 µg

NMIBC (N=3)

100 µg at tumor base

Cohort C: Drug + light

Total 200 µg

NMIBC (N~3)

200 µg at tumor base

Safety Review Board completed after each cohort. Patients followed for safety after TURBT to 56 days.

Study objectives	Safety & dose-limiting toxicity	Feasibility of technique	Focal distribution of AU-011	Focal necrosis	Markers of immune activation

NMIBC, non-muscle-invasive bladder cancer; **MoA**, mechanism of action; **TURBT**, transurethral resection of bladder tumor.
Clinicaltrials.gov identifier: NCT05483868; AU-011-102.

Early efficacy data: Ta low-grade

4/5 low-grade target tumors demonstrated complete response to AU-011

	Patient A1	Patient A3	Patient A4[c]	Patient B2	Patient C1[d]
Screening diagnosis	Single (screening) Multiple (TURBT) **Ta low-grade**	Multiple **Ta low-grade**	Multiple **Ta low-grade (2024)** **Ta high-grade (2023)**	Multiple **Ta low-grade**	Multiple **Ta low-grade**
Screening AUA risk classification	**Low (screening)** **Intermediate (TURBT)[f]**	**Intermediate**	**Intermediate**	**Intermediate**	**Intermediate**
AU-011 dose/delivery	100 µg IT/IM	100 µg IT/IM	100 µg IT/IM	100 µg IT	200 µg IT
Clinical complete response: Target tumor[a]	✓	✓	✓	-	✓
Clinical complete response: Non-target tumor[a] (bladder urothelial field effect[b])	**2/2**	**1/2**	**1/1**	-	-
Immune response[e]: Target tumor	✓	✓	✓	✓	*pending*
Immune response[e]: Non-target tumor	✓	✓	✓	✓	*pending*
Necrosis	✓	✓	✓	-	*pending*
Visual changes on cystoscopy	✓	✓	-	✓	✓

[a]For purposes of this analysis, Clinical complete response defined as absence of tumor cells on histopathologic evaluation. [b]Bladder urothelial field effect: absence of tumor cells in non-target lesions. [c]Previously treated tumor demonstrated high-grade disease but pathology at time of treatment revealed low-grade disease in non-target tumor. [d]Complete response (target tumor) based upon local pathology with central review ongoing; immune response and necrosis evaluations pending central review. [e] Immune response is defined by immunocyte infiltration on post-treatment histopathology. [f]Single lesion visualized at screening on office cystoscopy. Multiple lesions subsequently seen with improved visualization at time of TURBT.

AUA, American Urological Association; **IM**, intramural; **IT**, intratumoral; **TURBT**, transurethral resection of bladder tumor.

Clinicaltrials.gov identifier: NCT05483868; AU-011-102.

*Early data reported October 17, 2024.

Cohorts A–C:
Single-dose drug with light activation

Early efficacy data: Ta high-grade

3/3 high-grade tumors demonstrated immune response to AU-011

	Patient A2	Patient B1	Patient B3
Screening diagnosis	Single Ta high-grade	Multiple Ta high-grade	Single Ta high-grade
Screening AUA risk classification	High	High	Intermediate
AU-011 dose/ delivery	100 µg IT/IM	100 µg IT	100 µg IT
Clinical complete response: Target tumor[a]	-	-	-
Clinical complete response: Non-target tumor[a] **(bladder urothelial field effect**[b]**)**	NA	-	NA
Immune response[c]**: Target tumor**	✓	✓	✓
Immune response[c]**: Non-target tumor**	NA	✓	NA
Necrosis	-	-	-
Visual changes on cystoscopy	Tumor Visually Smaller	Tumor Visually Smaller	-

Cohorts A + B:
Single-dose drug with light activation

[a]Clinical complete response defined as absence of tumor cells on histopathologic evaluation. [b]Bladder urothelial field effect: absence of tumor cells in non-target lesions.
[c]Immune response is defined by immunocyte infiltration on post-treatment histopathology
AUA, American Urological Association; **BCG**, Bacillus Calmette-Guerin; **CIS**, carcinoma in situ; **IM**, intramural; **IT**, intratumoral; **TURBT**, transurethral resection of bladder tumor.
Clinicaltrials.gov identifier: NCT05483868; AU-011-102.
*Early data reported October 17, 2024.

Patient A3

72-year-old Hispanic male

Screening diagnosis: (2024)

- Multiple
- **Ta low-grade (<3 cm)**
- No CIS

Screening AUA risk classification:
Intermediate

Initial diagnosis: (2019)

- Ta high-grade <3 cm
- No CIS
- Intermediate risk

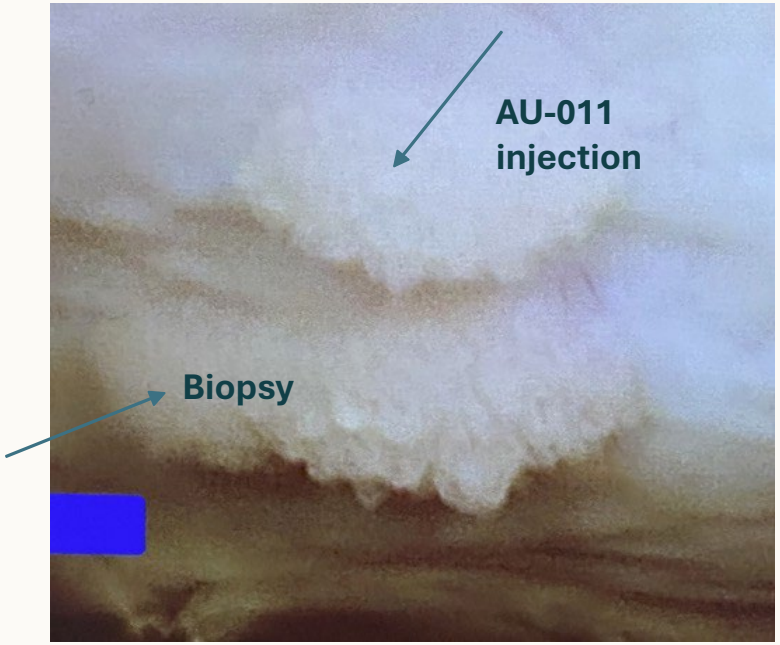
Prior TURBT:

- 2019, 2020 (x2), 2021 (x2), 2023

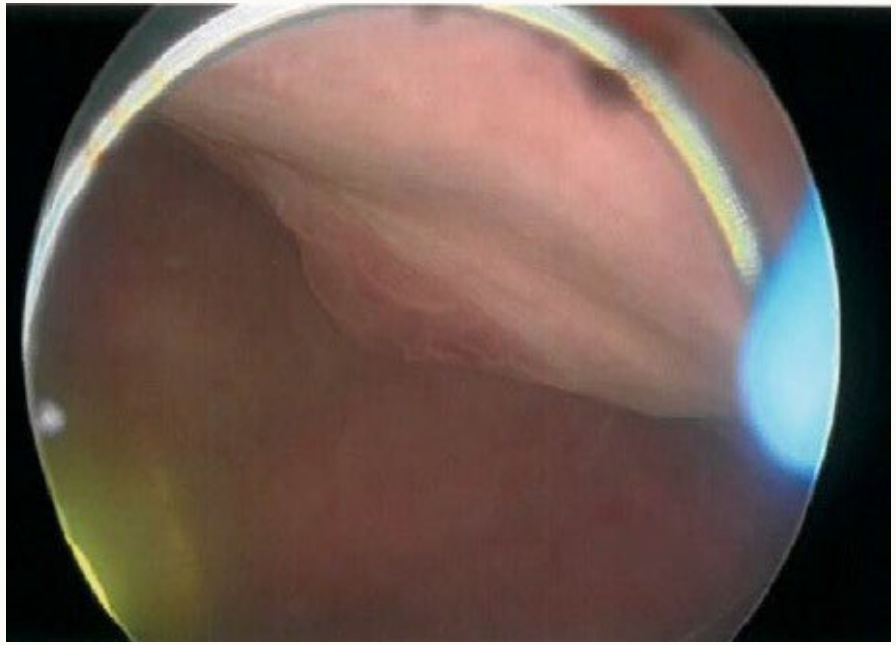
Prior adjuvant therapies:

- BCG induction and maintenance (2020-2021)

Complete clinical response visualized at time of TURBT confirmed with histopathologic evaluation



Pre-injection/pre-biopsy appearance of tumor on office cystoscopy

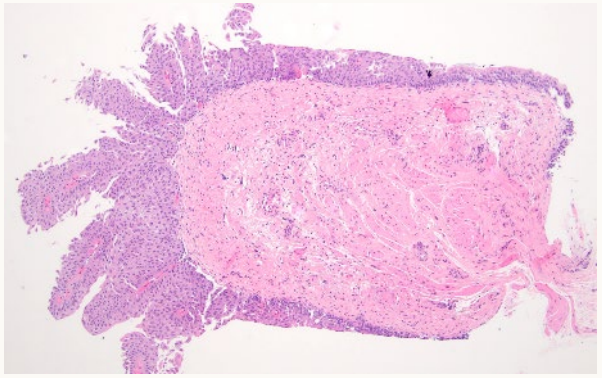
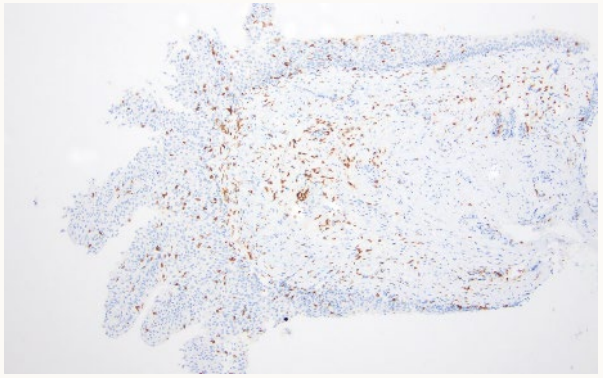
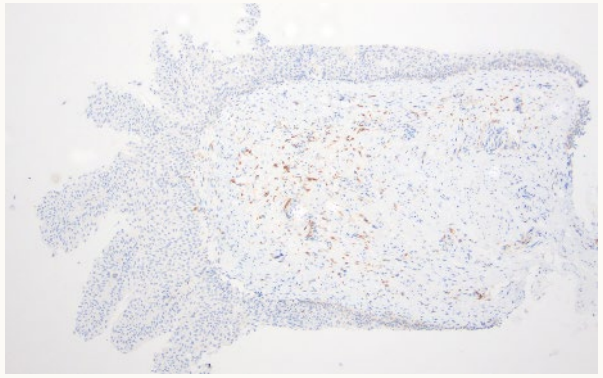
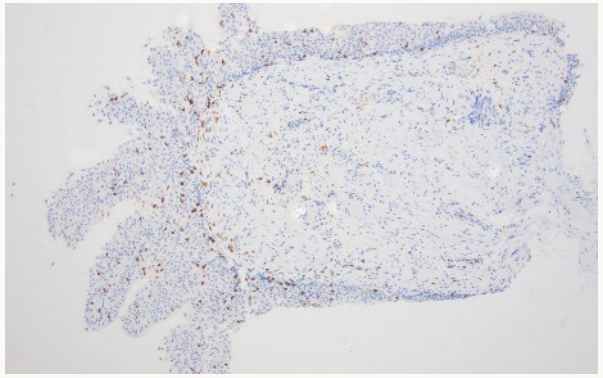
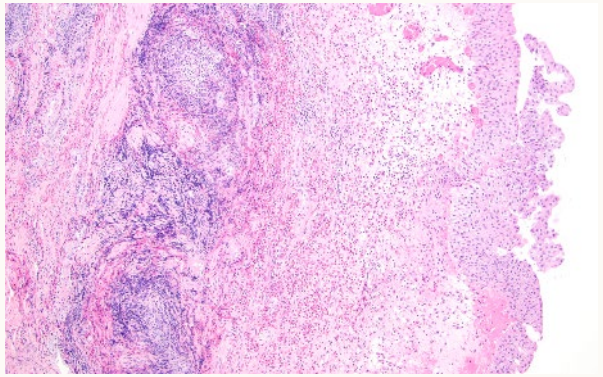
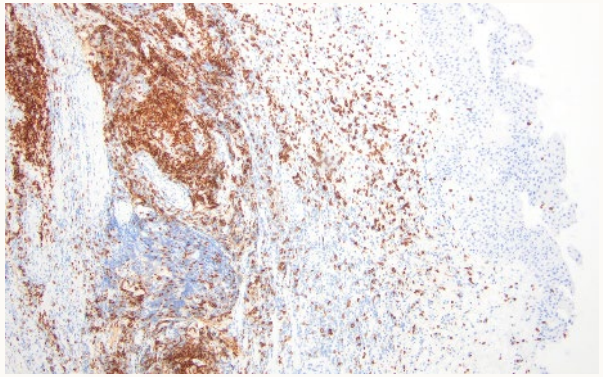
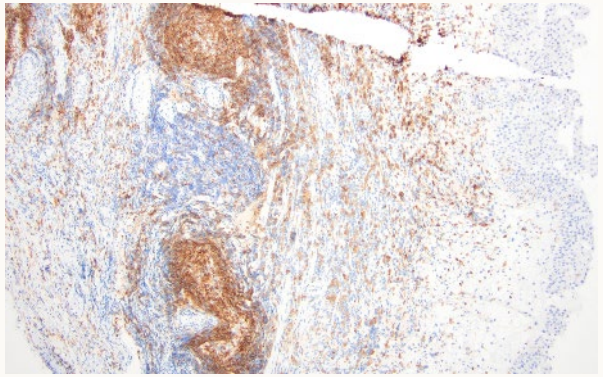
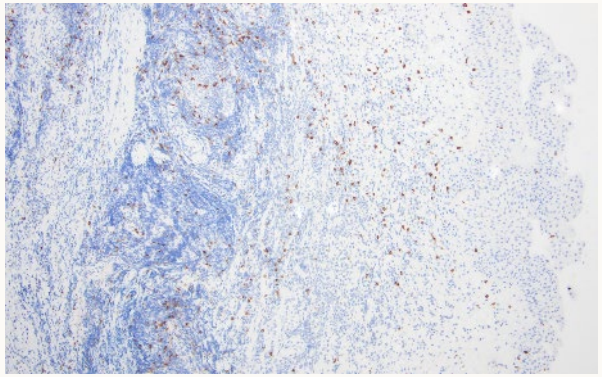


Post-injection edema and ecchymosis at injection site

Cohort A:
Single-dose drug with light activation

AUA, American Urological Association; **BCG**, Bacillus Calmette-Guerin; **CIS**, carcinoma in situ; **TURBT**, transurethral resection of bladder tumor.
Clinicaltrials.gov identifier: NCT05483868; AU-011-102.
*Early data reported October 17, 2024.

Patient A3: AU-011 focal distribution, necrosis, and positive immune staining (target lesion)

	H&E	CD3	CD4	CD8
Pre-treatment				
Post-treatment				

Cohort A:
Single-dose drug with light activation

H&E, hematoxylin and eosin.
Clinicaltrials.gov identifier: NCT05483868; AU-011-102.
*Early data reported October 17, 2024.

Light-activated cohorts (A + B):

Strong evidence of immune-mediated mechanism of action

- **100% (7/7)** of target tumors showed **infiltration of effector CD8+ T and CD4+ cells**, as early as 7 days after laser activation
- **100% (7/7)** of non-target tumors[a] (in the five patients with available immune staining) showed **T cell infiltration**, supportive of a **bladder urothelial field effect**
- **Focal eosinophilic infiltration** was observed in **57% (4/7)** target tumors and in **14% (1/7)** non-target tumors, supportive of a **local innate immune response** to tumor necrosis
- **Generation of lymphoid follicles**[b] was observed in **71% (5/7)** target tumors, supportive of a **local adaptive immune response**

AU-011 showed evidence of producing pro-immunogenic changes in situ that have the potential to bridge, activate, and enhance adaptive immunity, consistent with its expected MOA

[a]Patients for which biopsies were available. [b]Organized aggregates of immune cells.
MOA, mechanism of action
Clinicaltrials.gov identifier: NCT05483868; AU-011-102.
*Early data reported October 17, 2024.

AU-011 demonstrated a favorable safety profile with robust clinical and immunological response in early data readout of ‘all-comers’ NMIBC patients

Favorable safety profile

Only Grade 1 Drug-Related Adverse Events Reported in <10% of Patients

No drug-related grade 2 or higher AEs; no SAEs or DLTs

Focal treatment with no systemic adverse events observed as of data cutoff

Rapid Immune activation

100% of patients showed immune cell infiltration in target and non-target lesions

Immune-mediated MOA and bladder urothelial field effect

Tumor shrinkage and clinical response

Positive early data show 4/5 patients with low-grade disease had a complete clinical response

Single low-dose of AU-011 showed multiple clinical complete responses in target and non-target tumors

Development plan

Continue development with initial focus on low-grade intermediate risk NMIBC patients

Planned Phase 1b/2 trial expansion to evaluate additional doses, treatment regimens, and durability of response at 3 months

AE, adverse event; **DLT**, dose-limiting toxicity; **DOR**, duration of response; **MOA**, mechanism of action; **NMIBC**, non-muscle-invasive bladder cancer; **SAE**, serious adverse event.
ClinicalTrials.gov Identifier: NCT06007690; AU-011-301.
*Early data reported October 17, 2024.

Company highlights

Corporate

- **Strong cash position** – expected to fund operations into **2H 2026**
- **Experienced leadership** team across functions

Urologic Oncology Therapeutic Area

- **Multiple clinical complete responses** with single low dose in ongoing phase 1 NMIBC trial
- **Phase 1b/2 expansion data** evaluating additional doses, treatment regimens, and early durability of response in NMIBC anticipated in 2025

Ocular Oncology Therapeutic Area

Primary uveal melanoma

- **Global phase 3 CoMpass** trial actively enrolling
- **Special Protocol Assessment (SPA)** agreement with FDA
- Phase 3 assumptions **supported by positive phase 2 end of study data**

Metastases to the choroid

- **Phase 2** trial first sites activated
- **Initial data** expected in 2025
- This ocular oncology indication **potentially doubles market opportunity**[1]

1. ClearView & Putnam & Assoc. Epidemiology Analysis Choroidal Melanoma and Choroidal Metastasis. **FDA**, United States Food and Drug Administration. **NMIBC**, non-muscle-invasive bladder cancer.
Bel-sar (AU-011) is an investigational product candidate. The effectiveness and safety of bel-sar have not been established, and bel-sar is not approved for use in any jurisdiction.

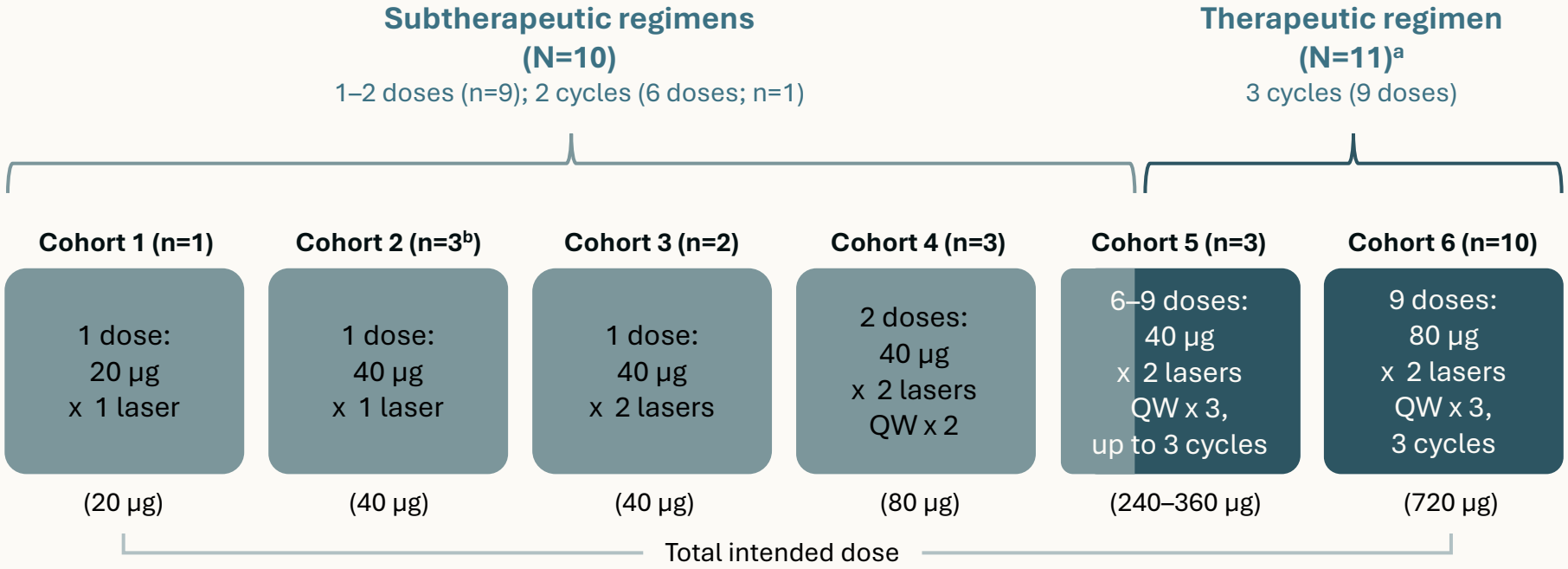
Appendix Ocular Oncology

aura

Phase 2 trial of bel-sar for choroidal melanoma: Open-label, dose-escalation with suprachoroidal administration

Trial design – 22 participants enrolled

Patient population representative of early-stage disease: Small choroidal melanoma and indeterminate lesions



Endpoints

Tumor progression
Growth in tumor height ≥0.5 mm or ≥1.5 mm in LBD relative to baseline

Visual acuity loss
≥15 letters decrease from baseline

Tumor thickness growth rate
Change in rate of growth of tumor thickness

Goal: To determine safety, optimal dose and therapeutic regimen with suprachoroidal administration

One cycle = Doses on days 1, 8, and 15.

[a]12 patients enrolled, 1 patient who discontinued after 1 cycle due to unrelated SAEs is not included in data analysis (n=11). [b]Cohort 2: 2 participants were planned; third participant was additionally enrolled due to dose error in 1 participant.

LBD, largest basal diameter; **QW,** every week; **SAE,** serious adverse event. ClinicalTrials.gov Identifier, NCT04417530: AU-011-202. **Data on file, Aura Biosciences.**

Baseline characteristics

All study participants

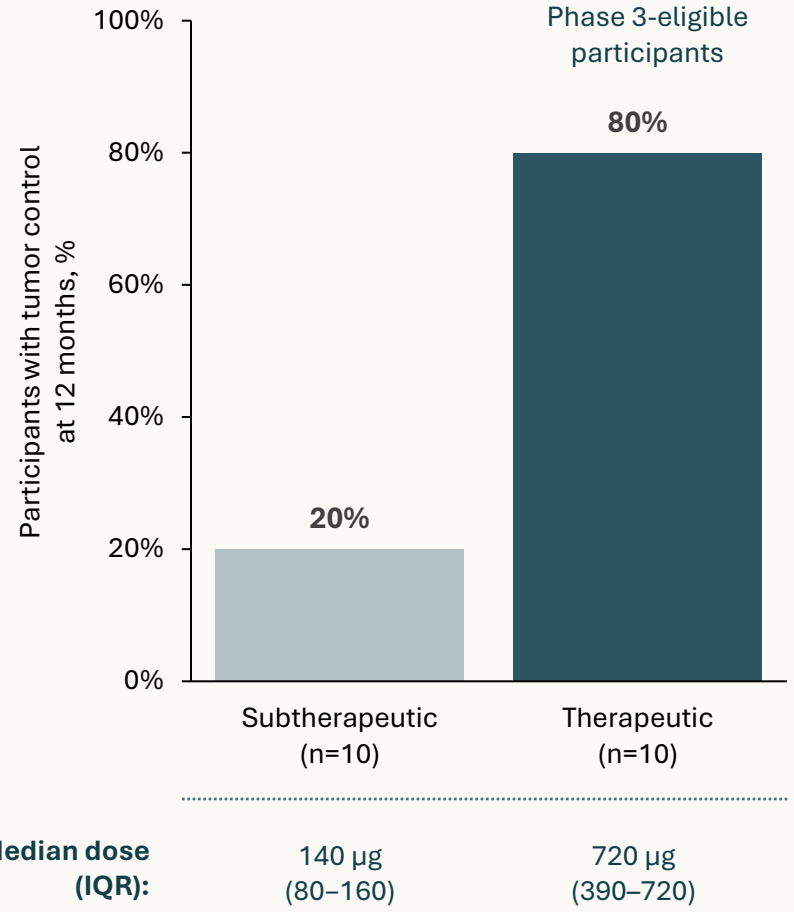
	All patients (n=22)
Female (%)	54.5
White, not Hispanic or Latino (%)	100
Subretinal fluid at screening (%)	100
Orange pigment at screening (%)	86.4
Documented growth prior to screening (%)	86.4 *(100% of therapeutic group)*
Mean age at screening (years, ± SD)	59.2 (±16.5)
Mean baseline BCVA in study eye (ETDRS letters, ± SD)	83.2 (±7.2)
Mean baseline LBD (mm, ± SD)	8.5 (±1.4)
Mean baseline tumor thickness (mm, ± SD)	2.0 (±0.5)
Mean tumor distance to closest vision-critical structure at screening (mm, ± SD)	2.0 (±2.3)
Tumors at high risk for vision loss (%)[a]	73% *(80% [8/10] of therapeutic group)*

[a]High risk for vision loss defined as tumor edge within either 3 mm of foveal center or 3 mm of optic disc edge.
BCVA, best-corrected visual acuity; **ETDRS**, Early Treatment Diabetic Retinopathy Study; **LBD**, largest basal diameter. **Data on file, Aura Biosciences.**

High local complete response rate at 12 months follow-up

80% tumor control rate[a] at 12 months among the 10 phase 3-eligible patients in the 3-cycle cohorts

High tumor control rates with therapeutic regimen in phase 3-eligible patients with active growth

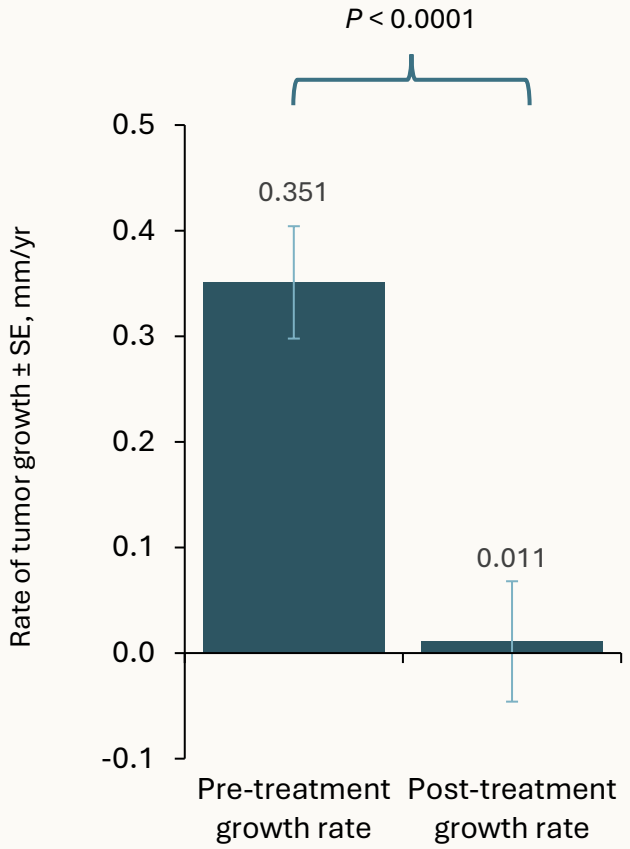


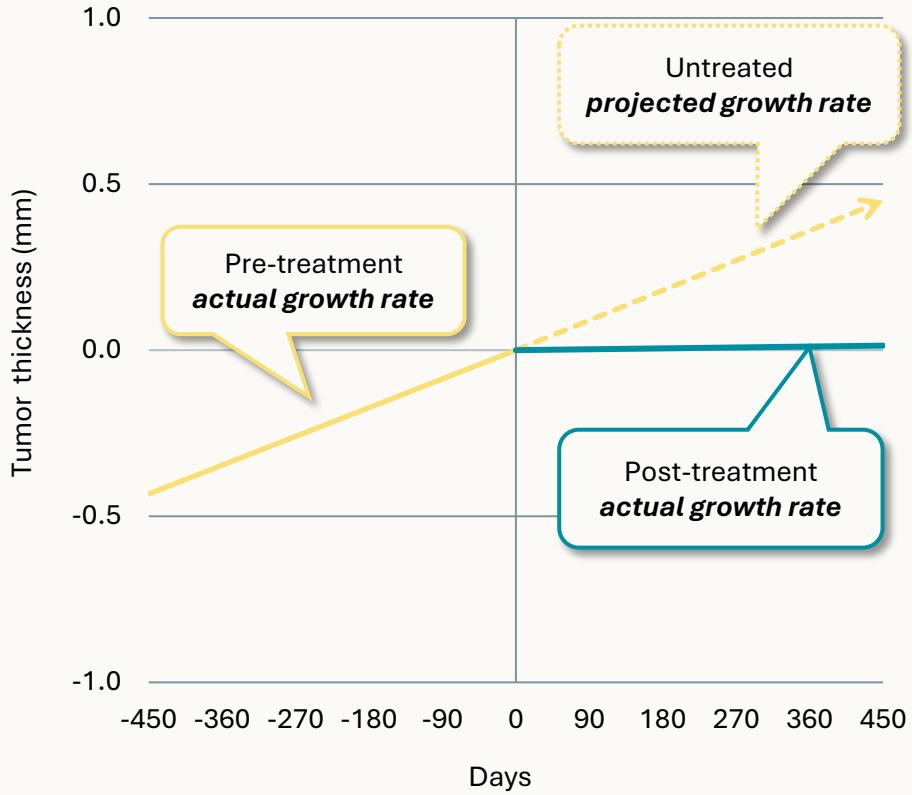
Dose/ Regimen	n	Tumor control rate, %
Subtherapeutic regimen		
≤2 cycles	10	20% (2/10)
Therapeutic regimen		
3 cycles, phase 3-eligible[b]	10	80% (8/10)

[a]Local complete response, or CR, in early-stage choroidal melanoma is described as tumor control and complete arrest of tumor growth by ocular oncologists.
[b]One participant with circumpapillary tumor that did not meet phase 3 criteria is not included.
LBD, largest basal diameter. ClinicalTrials.gov Identifier, NCT04417530: AU-011-202. **Data on file, Aura Biosciences.**

In phase 3-eligible patients, the 3-cycle regimen resulted in cessation of growth among responders (N=8)

Rate of tumor growth with bel-sar treatment



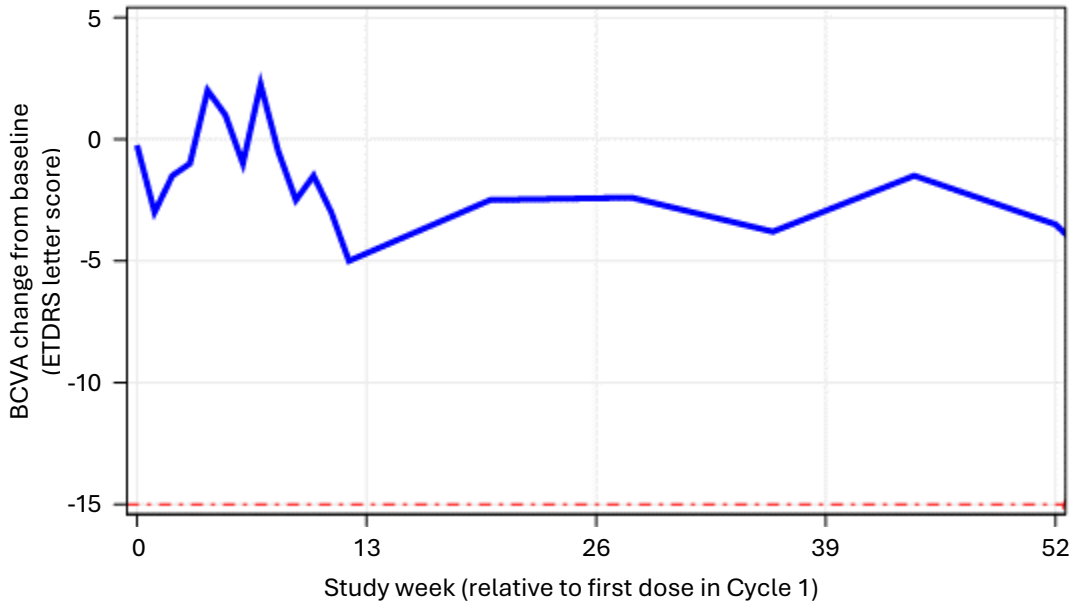


Tumor thickness growth rates/slopes estimated using Mixed Models for Repeat Measures (MMRM); random intercept and slope model for Historical and Study periods. ClinicalTrials.gov Identifier, NCT04417530: AU-011-202. **Data on file, Aura Biosciences.**

Visual acuity was preserved in 90% of phase 3-eligible patients receiving a bel-sar therapeutic regimen

- 80% were at high risk of vision loss with tumors < 3 mm to the fovea or optic nerve
- 90% visual acuity preservation supports the potential for bel-sar to be a front-line therapy for early-stage disease

Median change in BCVA in phase 3-eligible participants with therapeutic regimen (N=10)[a]



- Vision preservation in 9/10 participants
- Loss of 18 letters in one patient with progression of preexisting juxtafoveal fluid under fovea

Populations	Patients (n)	Vision failures[b] (n)	Vision preservation rate (%)
All dose cohorts			
All treated patients	22	1	95%
Subtherapeutic			
≤2 cycles	10	0	100%
Therapeutic			
3 cycles and phase 3-eligible[a]	10	1	90%

[a]One participant with circumpapillary tumor that did not meet phase 3 criteria is not included. [b]Vision acuity loss defined as ≥15 letters decrease from baseline in ETDRS BCVA letter score.
BCVA, best-corrected visual acuity; **ETDRS,** Early Treatment Diabetic Retinopathy Study.
ClinicalTrials.gov Identifier, NCT04417530: AU-011-202. **Data on file, Aura Biosciences.**

Bel-sar treatment had a favorable safety profile

- No posterior inflammation
- No treatment-related SAEs
- No grade 3–5 treatment-related AEs

Phase 2 safety outcomes (bel-sar/laser-related)

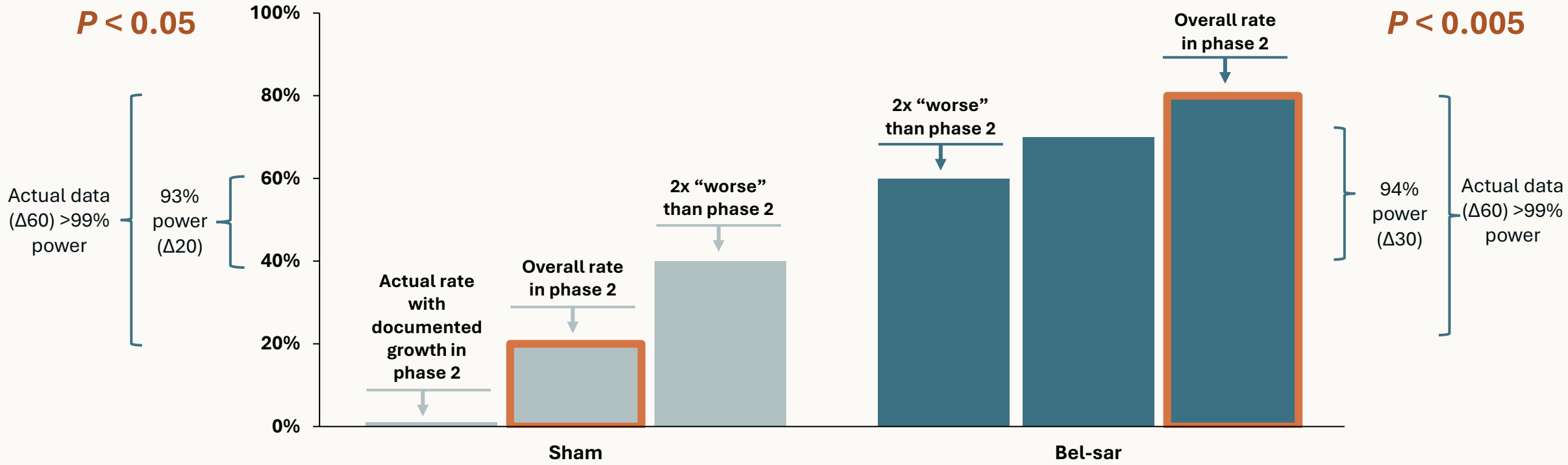
	All treated participants (n=22)*			
Drug/laser-related adverse events	**Grade I**	**Grade II**	**Grade III-V**	**Total**
Anterior chamber inflammation**	4 (18.2%)	0	0	4 (18.2%)
Anterior chamber cell**	2 (9.1%)	0	0	2 (9.1%)
Eye pain	2 (9.1%)	0	0	2 (9.1%)
Anisocoria	1 (4.5%)	0	0	1 (4.5%)
Conjunctival edema	1 (4.5%)	0	0	1 (4.5%)
Cystoid macular edema	1 (4.5%)	0	0	1 (4.5%)
Pupillary reflex impaired	1 (4.5%)	0	0	1 (4.5%)
Salivary gland enlargement	0	1 (4.5%)	0	1 (4.5%)

***Median duration 6 days (IQR: 3–10 days); All resolved with no or minimal treatment; If topical steroids given, median treatment duration 6 days*

* Table presents participants with AEs related to bel-sar or laser by severity and overall; participants with >1 AE are counted in the highest severity group
AE, adverse event; **SAE,** serious adverse event; **IQR,** interquartile range
ClinicalTrials.gov Identifier: NCT04417530; AU-011-202. **Data on file, Aura Biosciences.**

Phase 2 data support phase 3 assumptions

Robustness analysis of tumor control rates



Phase 3 trial design

Same dose, regimen, route of administration, range of tumor sizes, and reading center as phase 2 trial

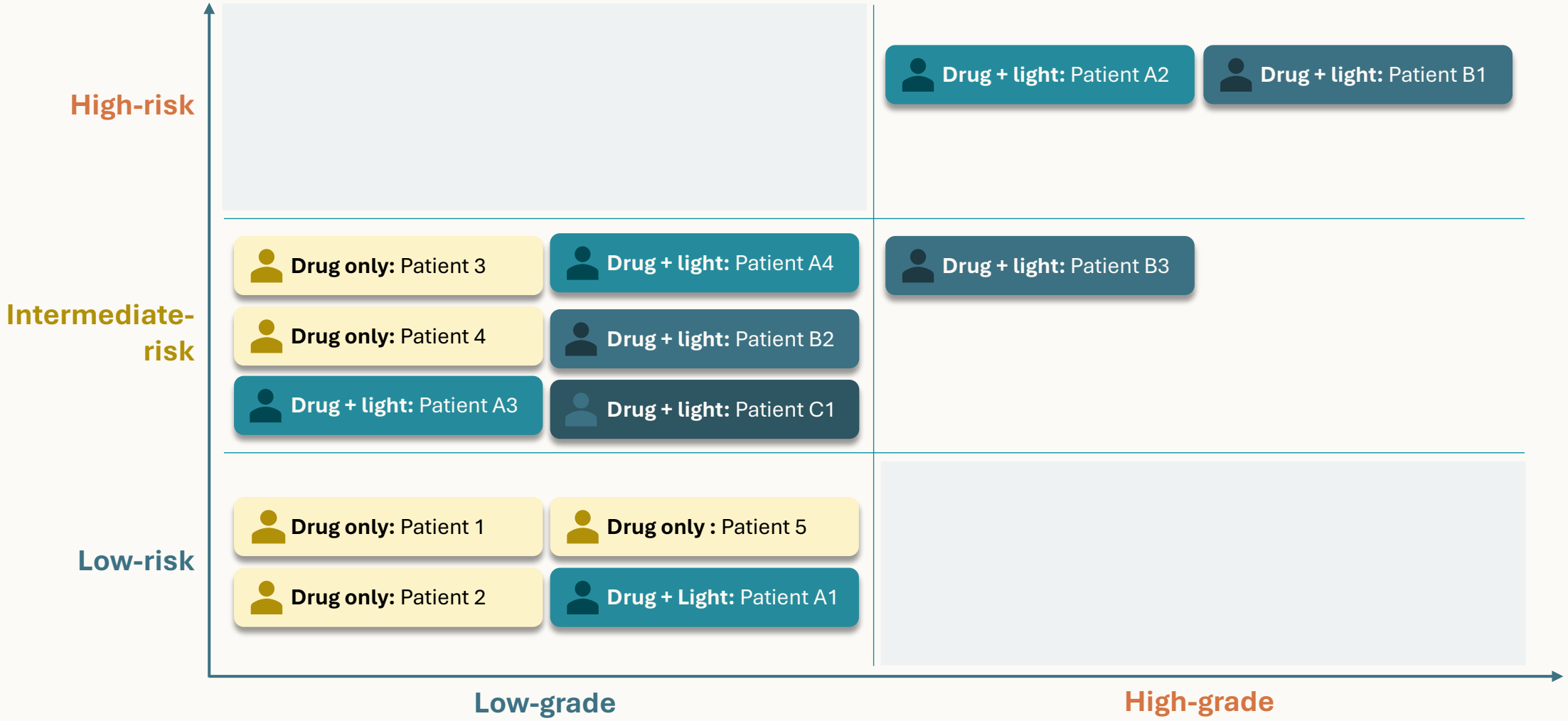
- Similar population to phase 2 participants receiving the therapeutic regimen
- Enriching for early documented growth; phase 3 randomization stratified by growth rate

ClinicalTrials.gov Identifier: NCT06007690; AU-011-301.

Appendix Urologic Oncology

aura

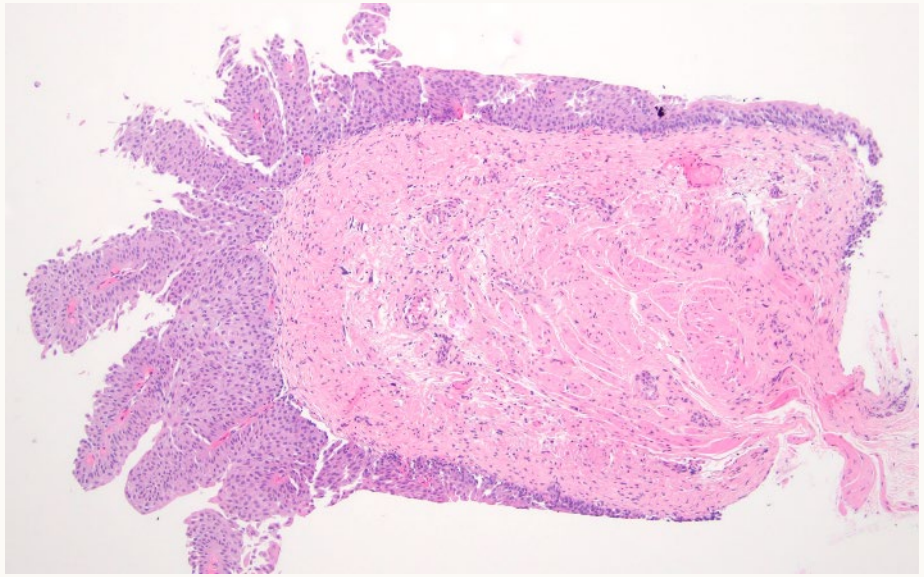
Patient population: AUA risk classification and grade at screening



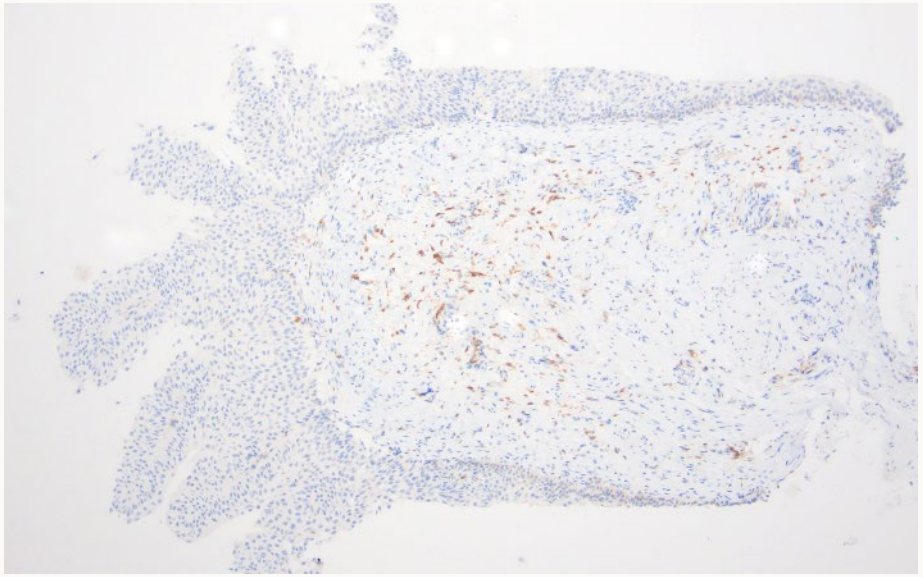
AUA, American Urological Association.
Clinicaltrials.gov identifier: NCT05483868; AU-011-102.
*Early data reported October 17, 2024.

Patient A3:
Post-treatment generation of secondary lymphoid follicles and increase in CD3, CD4, and CD8 infiltration

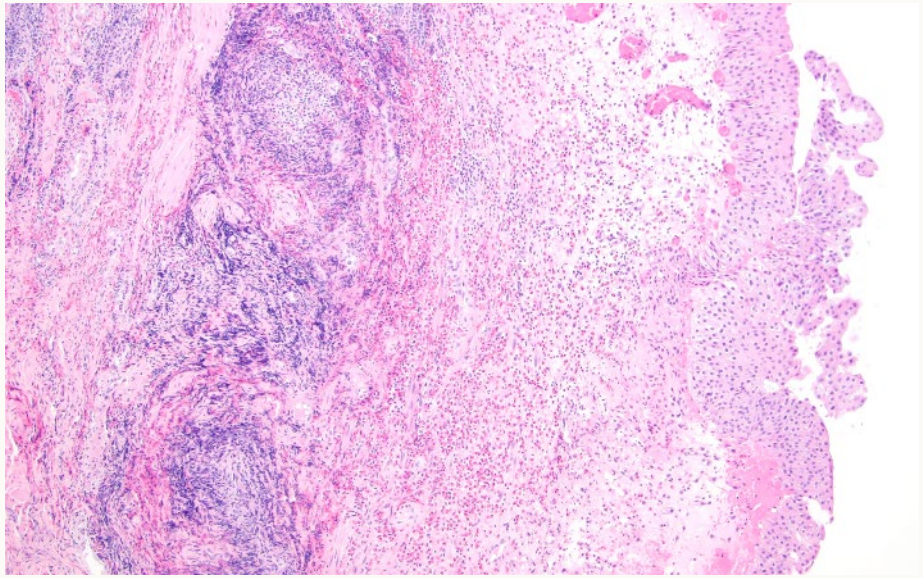
H&E: Pre-treatment



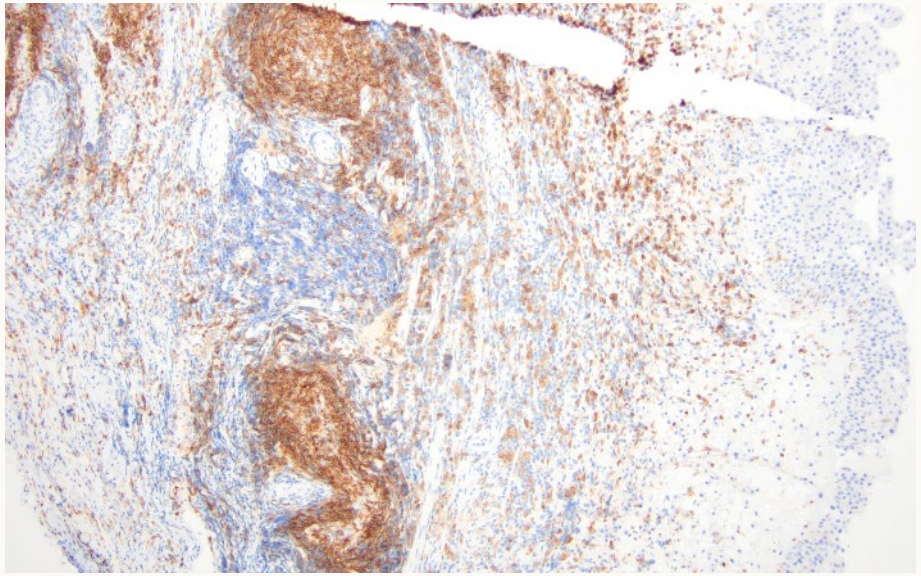
CD4: Pre-treatment



H&E: Post-treatment



CD4: Post-treatment



Cohort A:
Single-dose drug with light activation

H&E, hematoxylin and eosin.
Clinicaltrials.gov identifier: NCT05483868; AU-011-102.
*Early data reported October 17, 2024.