Transforming the treatment of eye diseases with sustained therapies

Morgan Stanley Global Healthcare Conference

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Forward-Looking Statements

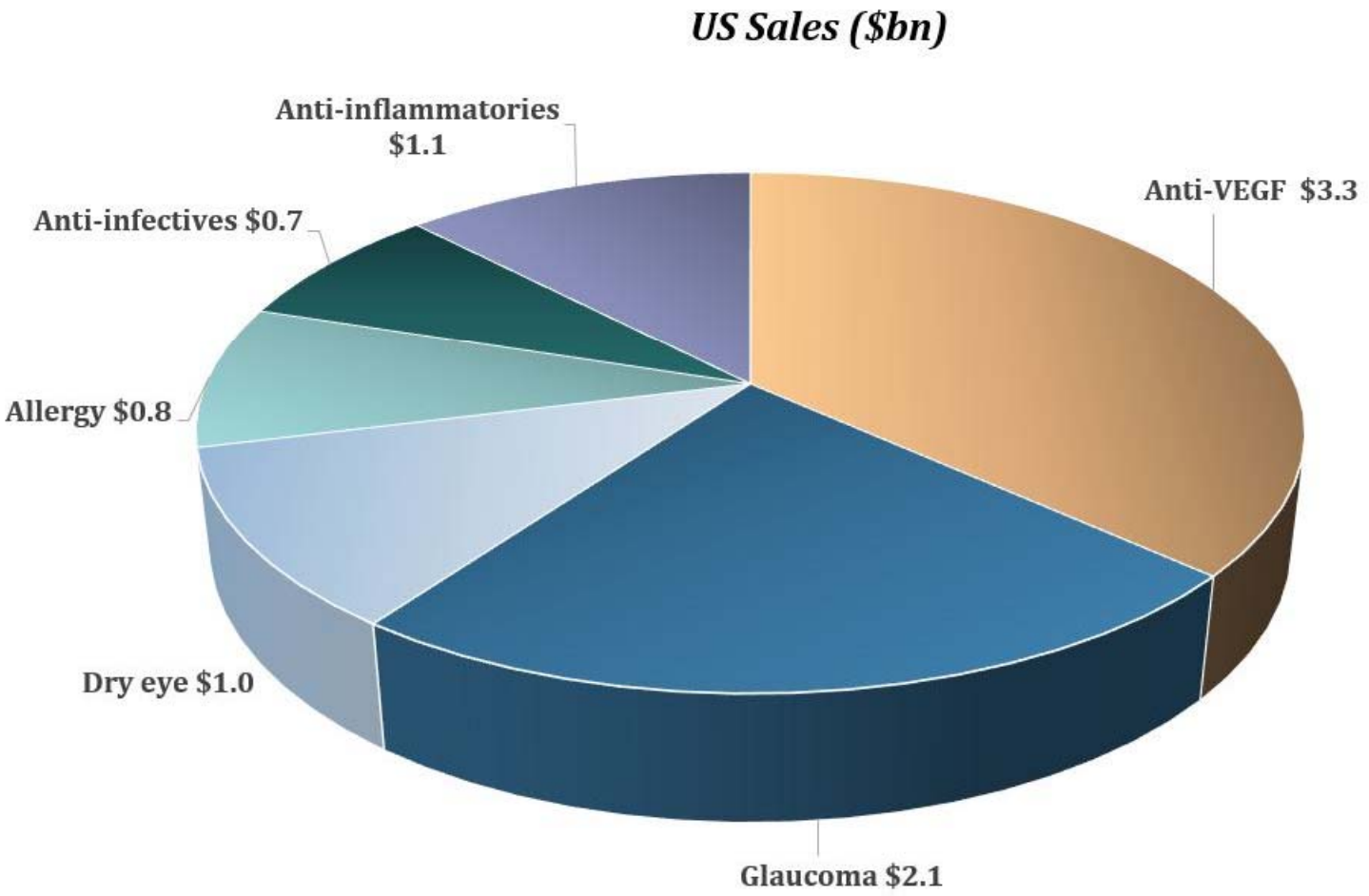
This presentation contains forward-looking statements about future expectations, plans and prospects for the Company, including statements about the development of the Company's product candidates, such as the timing and conduct of the Company's Phase 3 clinical trial of OTX-DP for the treatment of post-operative inflammation and pain following cataract surgery and the Company's Phase 2b clinical trial of OTX-TP for the treatment of glaucoma and ocular hypertension, the expected timing to release data relating to the Company's Phase 2 clinical trial of OTX-DP for the treatment of chronic allergic conjunctivitis, pre-commercial activities, the advancement of the company's earlier stage pipeline, future sales of ReSure® Sealant and other statements containing the words "anticipate," "believe," "estimate," "expect," "intend", "goal," "may", "might," "plan," "predict," "project," "target," "potential," "will," "would," "could," "should," "continue," and similar expressions, constitute forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995. Actual results may differ materially from those indicated by such forward-looking statements as a result of various important factors, including statements about the clinical trials of our product candidates. Such forward-looking statements involve substantial risks and uncertainties that could cause Ocular Therapeutix' clinical development programs, future results, performance or achievements to differ significantly from those expressed or implied by the forward-looking statements. Such risks and uncertainties include, among others, those related to the timing and costs involved in commercializing ReSure® Sealant, the initiation and conduct of clinical trials, availability of data from clinical trials and expectations for regulatory approvals, the Company's scientific approach and general development progress, the availability or commercial potential of the Company's product candidates, the sufficiency of cash resources and need for additional financing or other actions and other factors discussed in the "Risk Factors" section of the Company's filings with the Securities and Exchange Commission including the Company's most recent Quarterly Report on Form 10-Q. In addition, the forward-looking statements included in this presentation represent the Company's views as of the date of this presentation. The Company anticipates that subsequent events and developments will cause the Company's views to change. However, while the Company may elect to update these forward-looking statements at some point in the future, the Company specifically disclaims any obligation to do so. These forward-looking statements should not be relied upon as representing the Company's views as of any date subsequent to the date of this presentation."

Investment Highlights

- **CREATING a paradigm shift from pulsed to sustained ophthalmic therapies**
- **MULTIPLE LATE STAGE product candidates based on PROVEN hydrogel technology platform**
- **LARGE MARKET OPPORTUNITIES in glaucoma, post-op pain and inflammation, allergy and back-of-the-eye**
- **MITIGATION OF MOLECULE RISK with well-defined and approved clinical and regulatory pathways**
- **SOLID IP portfolio: 18 issued U.S. patents and 5 U.S. pending patent applications and foreign counterparts**
- **COHESIVE management team with track records of success**

Market Opportunity

OTX targeting markets currently totaling over $9.3 billion[1,2]

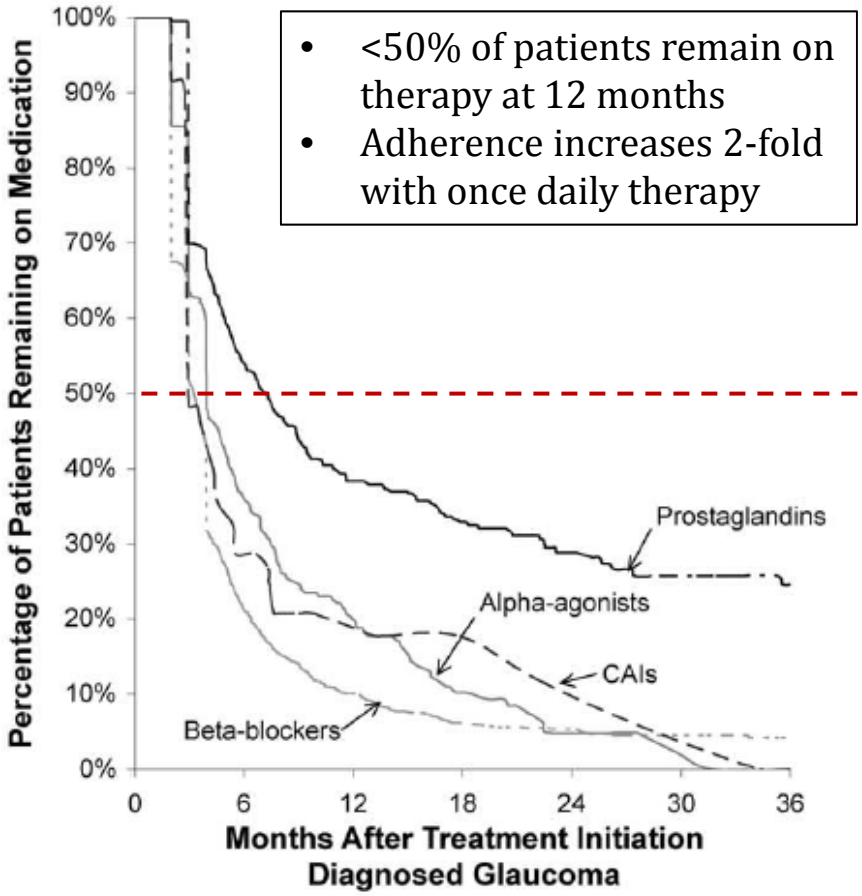


1. *IMS 2013*
2. *Regeneron, Roche 2013 annual reports*

Limitations of Eye Drops

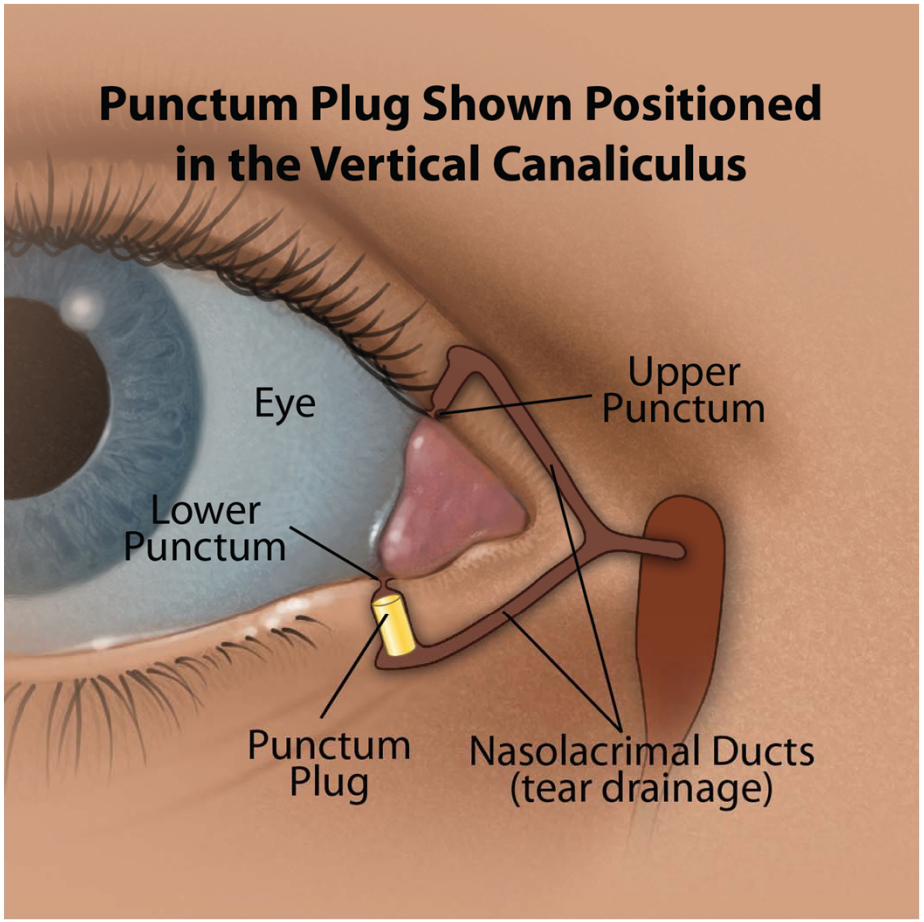
- **Poor patient compliance leads to diminished efficacy/disease progression**
  - Dosing up to 4-6x daily
  - More than 50% of glaucoma patients discontinue therapy within 12 months
- **Difficulty in administration**
  - Limited accuracy administering drops
  - Potential washout of drops from the eye
  - Bacterial contamination
- **Need for high drug concentrations**
  - High concentration needed to counter drug washout
  - <5% of dose actually penetrates to intraocular tissue
- **Preservatives can cause side effects**
  - Antimicrobial preservatives such as benzalkonium chloride can damage tear film and cause irritation[1]

Persistence and Adherence With Topical Glaucoma Therapy [2]



1. Rosin L, Bell N, Clin Ophthalmol 2013:7 2131–2135
2. Nordstrom BL et al. Am J Ophthalmol 2005; 140:598–606

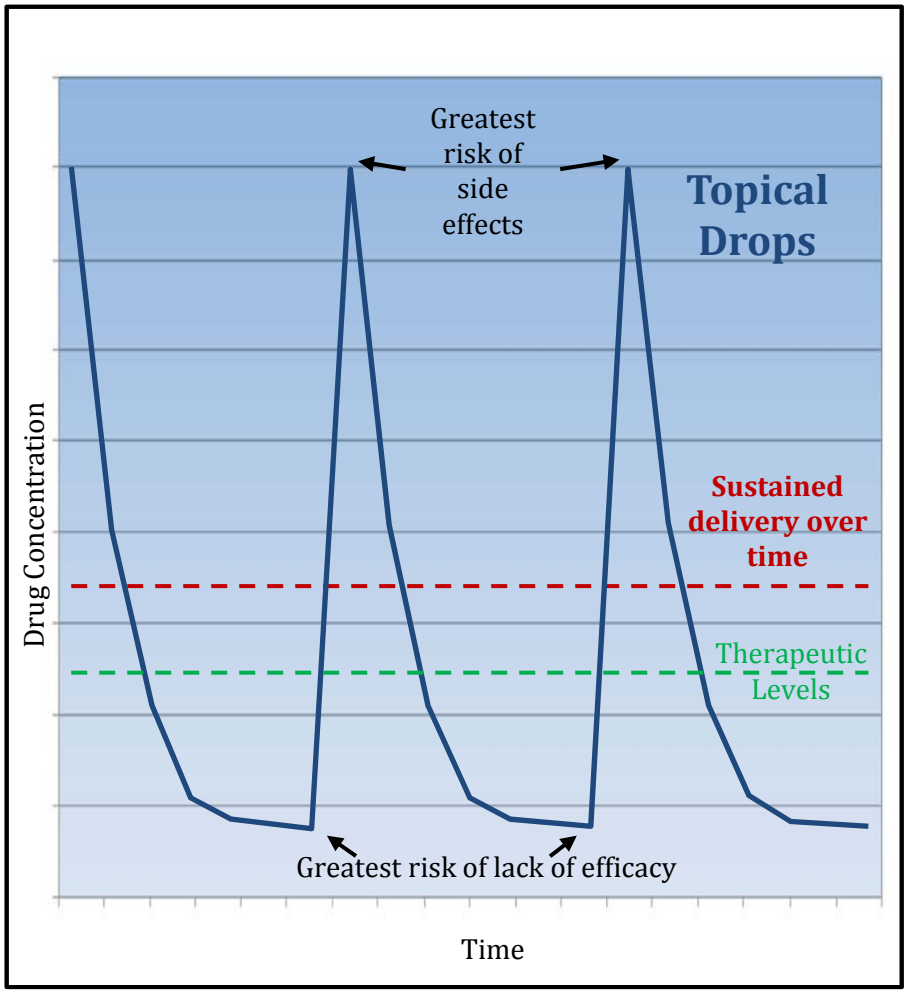
Drug Eluting Punctum Plugs



Drug Eluting Punctum Plugs

- **Expected Punctum Plug Benefits:**
  - Sustained delivery over time
  - Improves compliance
  - Vastly reduces dosing frequency
  - Reduces patient burden
  - May improve safety/efficacy

- **API selection criteria:**
  - Prior approval by the FDA
  - Expiration of relevant patent protection
  - High potency to minimize drug payload
  - Availability from a qualified supplier
  - Compatibility with our punctum plug technology



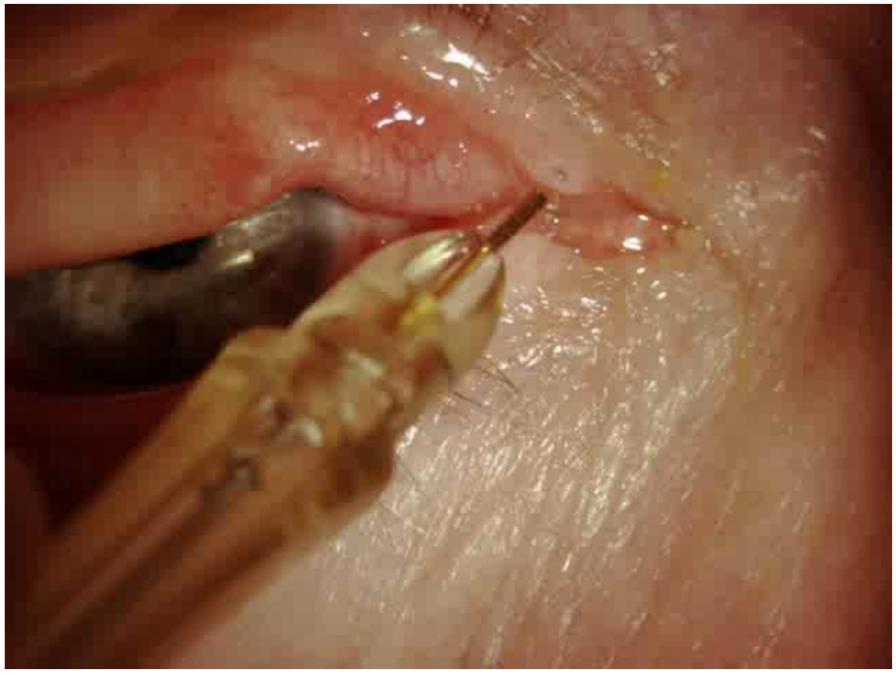
Anterior Segment Therapies

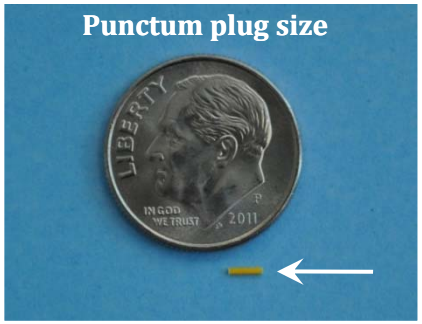
Product Design

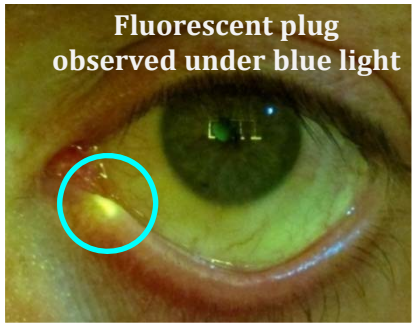
- Disease-specific, tailored drug release and plug persistence

Procedure [1]

- Easy to insert, familiar procedure to physicians [2]
- Upon insertion, shrinks in length and expands in width
- Non-invasive
- Absorbable – no need for removal







1. *Drug-eluting punctum plugs are investigational new drugs and not commercially available in the United States or other geographies*
2. *Based on clinical trials conducted and on physician experiences with commercially available punctum plugs for the treatment of dry eye*

Approved and Proven Technology

Ocular's founders and management have previously used hydrogel technology to develop FDA approved / currently marketed products for a wide range of indications

DuraSeal® Dural Sealant System

Neurosurgery

INTEGRA

PMA approved

2012 Sales: $65MM [1]

ReSure® SEALANT

Ophthalmology

Ocular Therapeutix

PMA approved

DuraSeal™ Xact SEALANT SYSTEM

Spinal Surgery

COVIDIEN

PMA approved

MYNX™

Interventional Cardiology

access closure

PMA approved

2013 Sales: >$80MM [2]

SprayGel® SYSTEM Adhesion Barrier

Gynecological Surgery

COVIDIEN

CE Marked

TraceIT™

Radiation Oncology

Augmenix

510(k) cleared

1. *Duraseal was acquired by Integra from Covidien for an upfront payment of $235MM in October 2013*
2. *AccessClosure was acquired by Cardinal Health for $320MM in May 2014*

Management Team

Name / Title	Experience
 **Amar Sawhney, Ph.D.** *President & CEO*	**Augmenix** – CEO **Confluent Surgical**– Founder, President, CEO **Focal**– Technical Founder
 **Jim Fortune** *Chief Operating Officer*	**Access Closure**– COO **Intrinsic Therapeutics** – COO **Confluent Surgical** – COO
 **Brad Smith** *Chief Financial Officer*	**OmniGuide Surgical –** CFO **NeuroMetrix –** CFO **Focal –** CFO
 **Eric Ankerud, J.D.** *Executive Vice President, Clinical, Regulatory and Quality*	**Confluent Surgical** – VP, Clinical, Regulatory and Quality **Boston Scientific** – VP, Corporate Regulatory Affairs **Summit Technology** – VP, Quality, Regulatory and Clinical Affairs
 **Peter Jarrett, Ph.D.** *Chief Technical Officer*	**Genzyme** – VP, Biomaterials R&D **Focal** – VP, R&D **American Cyanamid –** Research Fellow
 **Scott Corning** *Vice President, Sales & Marketing*	**Alcon** – Global Director of Marketing - Pharmaceuticals **Summit Technology –** Marketing Manager **Euroclear –** Corporate and Marketing Communications Manager
 **Art Driscoll** *Vice President, Product Development*	**Covidien –** VP, Research and Development, BioSurgery **Confluent Surgical –** Senior Director of Product Development **Boston Scientific –** Sr. R&D Engineer / Technical Lead

Pipeline and Products

CURRENT PRODUCTS	*Preclinical*	*Phase I*	*Phase II*	*Phase III*	*Regulatory Approval*
ReSure® Sealant					
Late Stage Product Candidates					
Dexamethasone (Post-surgical inflammation and pain)					
Travoprost (Glaucoma)					
Earlier Stage Product Candidates					
Dexamethasone (Allergic conjunctivitis)					
Moxifloxacin (Bacterial conjunctivitis)					
Anti-VEGF depot (Wet AMD)					

Competitive Analysis

Company (Product)	Ocular Therapeutix 	Prior approaches 
Drug capacity	Higher capacity	Lower capacity [1]
Drug release	Adjustable, consistent release rate	High initial release rate which decreases over time
Plug design	Drug encapsulated in pliable hydrogel; incorporates fluorescent label for patient visualization	Drug core within hard plastic shell
Patient experience	Soft plug sits beneath punctal opening	Foreign body sensation due to protrusion of plastic cap
Absorption	Bioresorbable material	Non-absorbable material

1. *Clinical trial required use of two plugs per eye to achieve clinically meaningful results, which caused epiphora.*

Late Stage Products

OTX-DP: Dexamethasone Punctum Plug

Status: Phase 3

Overview of OTX-DP

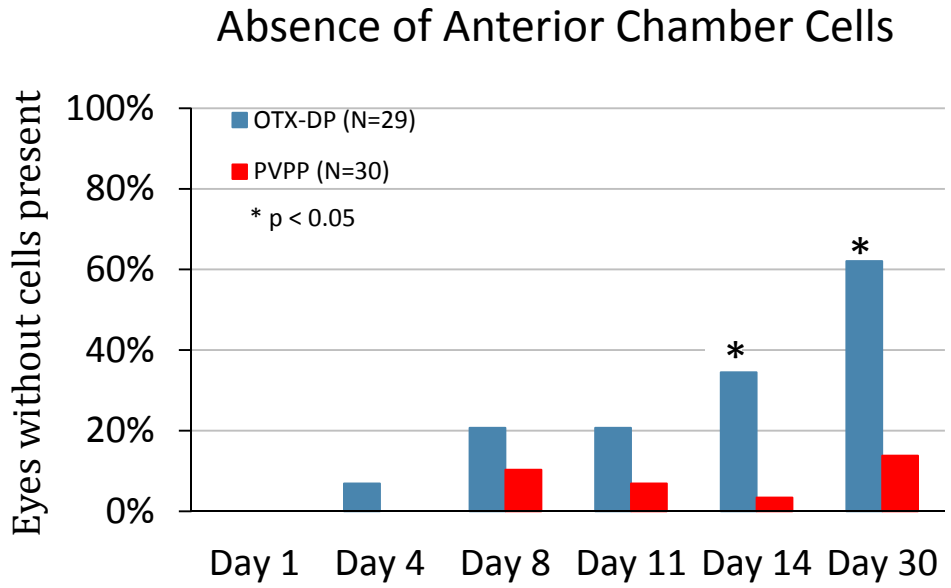
- **Market size and dynamics**
  - *5 million ocular surgeries will be performed in the United States in 2014* [(1)]
  - Approximately 8.1 million Rx and $466MM in sales for single-agent steroids [(2)]
    - $800 million market potential with full conversion to branded prescriptions [(2)]
  - Used for a wide range of diseases: uveitis, allergic conjunctivitis, blepharitis [(3)], dry eye, etc.
- **Anticipated Product profile**
  - 4-week tapered release of the potent corticosteriod dexamethasone
  - Non-invasive sustained therapy for post-surgical ocular inflammation and pain
- **Anticipated Product positioning**
  - One-time administration replaces complex daily dosing regimen (4-6x daily with tapering over 4 weeks)
  - Improved patient compliance
  - Strong steroid made safer due to tailored delivery
  - No IOP spikes

1. *Market Scope*
2. *IMS Health, 2013*
3. *Jackson BW, Blepharitis: current strategies for diagnosis and management, Canadian Journal of Ophthalmology, Volume 43, Issue 2, 170 – 179.*

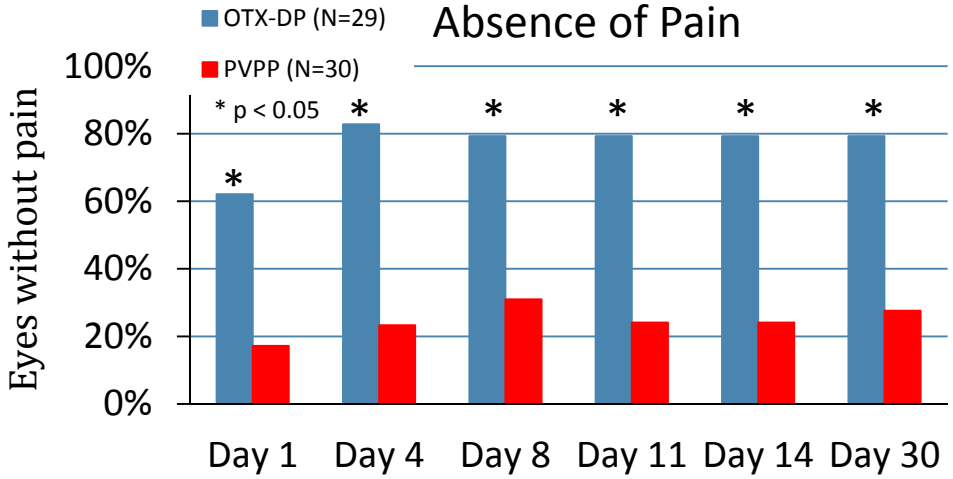
Phase 2 Study Design

- **Objective:**
  - To evaluate the safety and efficacy of the OTX-DP for the treatment of ocular inflammation and pain in subjects following cataract surgery
- **Study design:**
  - Prospective, double-masked, placebo-controlled study (PVPP)
  - 60 randomized subjects (1:1) at 4 U.S. clinical sites
- **Primary endpoints:**
  - Absence of cells in anterior chamber of the study eye at day 8
  - Absence of pain in the study eye at day 8

Phase 2 Trial Results



- Did not meet the primary endpoint for absence of cells at day 8
- However, there was a trend of improved absence of cells at all time points measured, with statistical significance at days 14 and 30
- Primary efficacy endpoint for inflammation in Phase 3 clinical trials will measure the absence of cells at day 14 (consistent with trials of other approved ophthalmic steroids in the US)



- Met the primary efficacy endpoint with statistical significance for absence of pain compared to the vehicle control at day 8 ($p<0.0001$)
- The differences between OTX-DP and the vehicle control for absence of pain also were statistically significant at each other time point ($p<0.0002$)
- Primary pain endpoint in Phase 3 clinical trials will be absence of pain at day 8

OTX-DP Phase 3 Study Design

- **Objective:**
  - To evaluate the safety and efficacy of the OTX-DP for the treatment of post-operative inflammation and pain in subjects following cataract surgery
- **Study design:**
  - Prospective, multicenter, randomized, parallel-arm, double-masked, vehicle-controlled study
  - Two studies of 240 randomized subjects (2:1 randomization)
- **Primary endpoints:**
  - Absence of cells in anterior chamber of the study eye at day 14
  - Reduction of pain in the study eye at day 8

Late Stage Products

OTX-TP: Travoprost Punctum Plug

Status: Phase 2a Complete

Overview of OTX-TP

- **Market size:**
  - *Approximately 31M glaucoma Rxs filled in the United States in 2013 resulting in sales of $2.1Bn; over half were prostaglandin analogs* [(1)]
  - *Chronic disease impacting ~2.2MM people in the United States* [(2)]
- **Anticipated Product profile**
  - Treatment for glaucoma and ocular hypertension over 60 – 90 days based on a single product administration
  - Provides sustained release of the potent prostaglandin analog, travoprost
  - Preservative-free
- **Anticipated Product positioning**
  - One-time administration replaces up to 3 months of daily dosing
  - Improved patient compliance
  - Improved diurnal control of IOP
  - Minimize side effects such as hyperemia

1. *IMS Health, 2013*
2. *Glaucoma Research Foundation*

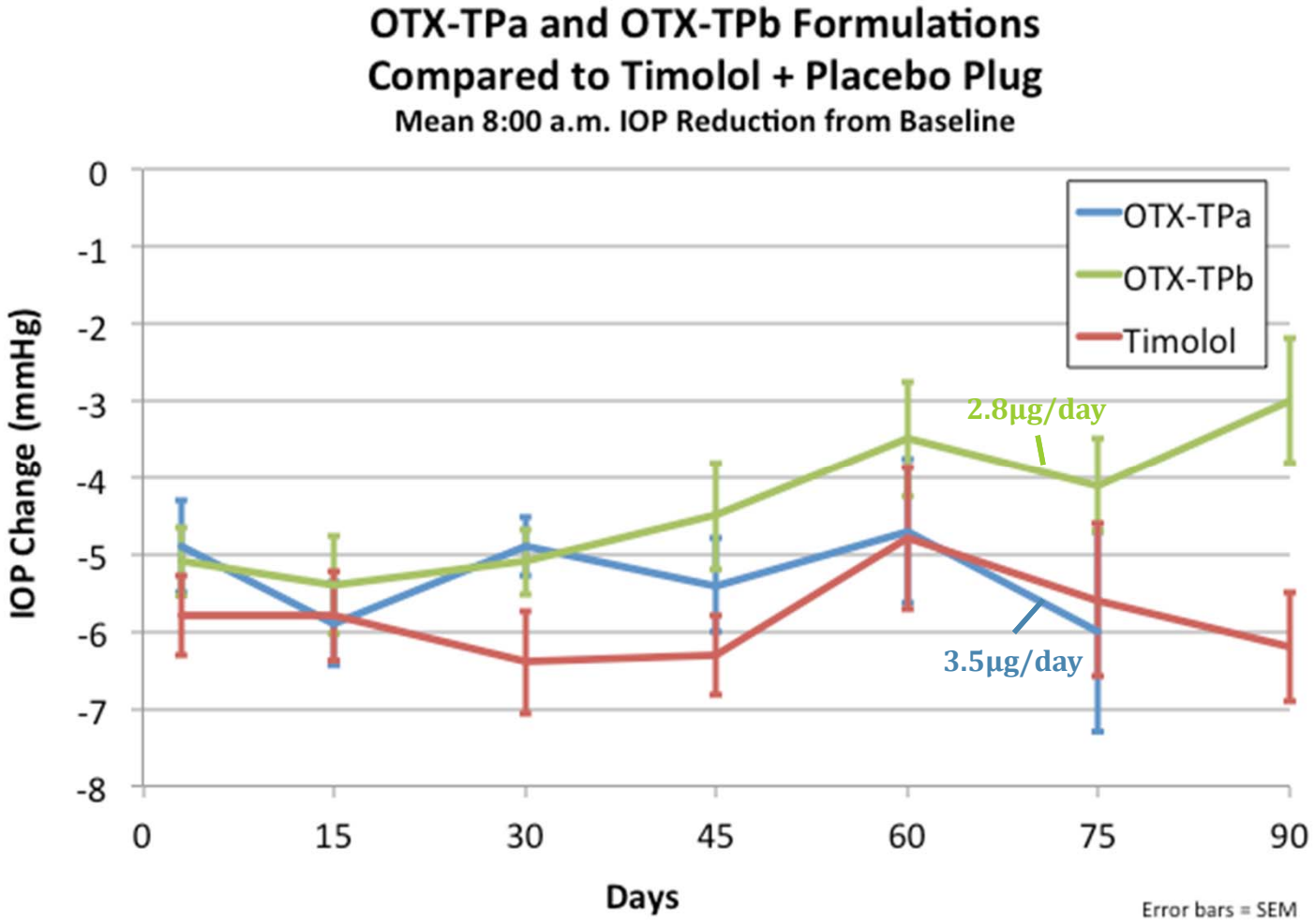
Phase 2a Study Design

Study Design

- Study conducted at 4 sites in South Africa
- Multi-arm, active control study:
  - OTX-TPa (delivers drug for 75 days; rate of 3.5µg per day)[1] + Placebo drops
  - OTX-TPb (delivers drug for 90 days; rate of 2.8µg per day)[1] + Placebo drops
  - PV (Placebo Vehicle) + Timolol drops
- Objective: to evaluate OTX-TP for reduction of IOP over a 60-90 day period
- 41 glaucoma/ocular hypertension subjects (82 eyes) enrolled
- Primary endpoints are, at each evaluation date and at each point in time, differences between treatment groups in:
  - Mean change in intraocular pressure from baseline
  - Mean percent change in intraocular pressure from baseline
  - Mean intraocular pressure

1. Release rate based on steady state *in vitro* data; Plugs used in this study were similar to the second NSR study (NSR2)

Phase 2a Study Results



Phase 2a Conclusions

Conclusions

OTX-TPa plug paid out drug for longer than expected 60 day duration and effect was seen out to 75 days

Sample size was small and not powered to show statistical significance, but trends observed:

- OTX-TPa arm appeared to show similar IOP reduction to Timolol drops (with placebo plug)
- 90 day plug (OTX-TPb) had 20% slower payout rate than 75 day plug (OTX-TPa) and appeared to produce proportionally lower IOP reduction
- The OTX-TPa dose level will be selected for the Phase 2b OTX-TP clinical trial

Safety Results: No serious adverse events noted

Phase 2b Study Design and Phase 3 Plan

- **US IND Phase 2b Study**
  - Controlled randomized 80-patient study
  - Two-arm, active control study:
    - OTX-TP + Placebo drops
    - Placebo Vehicle Punctum Plug + Timolol drops
  - Initiate enrollment in the 2H of 2014
- **Two controlled, randomized Phase 3 studies after efficacy shown in Phase 2b**
  - FDA has indicated study will need to include 500 patients (3 month exposure duration)
    - 300 of these patients will be studied for up to 6 months
    - 100 of these patients will be studied for up to 12 months for safety evaluations

ReSure® Sealant

First and only surgical sealant to be approved by FDA for ophthalmic use

Opportunity

- 3.65 million cataract procedures expected to be performed in United States in 2014 (1)
- Sutures used in 14% of cataract surgeries; suture use has a number of drawbacks

Building presence and credibility in the ophthalmology market

Enables Ocular to build awareness and credibility with the ophthalmology community ahead of commercializing subsequent pipeline products

1. *Market Scope*

Earlier Stage Products

	OTX-DP – Allergy	OTX-MP – Bacterial Conjunctivitis
Product Overview	• Punctum plug providing 4 week tapered release of dexamethasone	• Punctum plug providing initial drug burst followed by 7-10 days at sustained levels
Medical Need	• Sustained therapy for allergy sufferers refractive to first line treatments • Reduce compliance burden and improve efficacy	• Enhance delivery of post-surgical antibiotic prophylaxis • Ensure compliance and protection in critical post-operative period
Market Opportunity	• 6.7MM anti-allergy eye drop prescriptions in the US in 2013, resulting in sales of ~ $792MM	• 17MM prescriptions in the US in 2013 for topical ophthalmic antibiotics, resulting in sales of ~$670MM
Clinical Status	• Phase 2 trial initiated in March 2014; results expected in fourth quarter of 2014	• Phase 1 complete; phase 2 planning underway

Anti-VEGF Hydrogel Depot

- **Target profile:**
  - First in class 6-month sustained release anti-VEGF hydrogel depot
  - Provide treatment for back of the eye diseases and conditions, including wet age related macular degeneration (wet AMD)
  - Early stage feasibility agreements signed with three pharma/biotech companies
- **Anticipated hydrogel depot benefits:**
  - 6 months sustained release of anti-VEGF drugs
  - Fine needle injection
  - No interference with vision
  - Biocompatible, bioresorbable
- **Multi-billion commercial potential**
- **Next steps**
  - Ongoing in vitro and in vivo studies with the goal of establishing feasibility
  - Assuming feasibility is demonstrated, explore broader collaborations

Injectable anti-VEGF depot

Financial Overview

Strong Financial Position

- **SUCCESSFUL IPO - Completed IPO in July of 5.75 million shares including the full subsequent exercise of underwriters' over-allotment option. Shares were priced at $13.**
- **SOLID BALANCE SHEET - As of Q2'14, cash balance was $19.9M, excluding $66.7M in net proceeds from IPO**
- **USE OF PROCEEDS should advance multiple pipeline programs to late-stage development & commercialization**
  - Completion of Phase 3 clinical trials for OTX-DP for treatment of post-surgical ocular inflammation and pain, potential submission of NDA to FDA, and initial commercialization
  - Completion of Phase 2b trials for OTX-TP for glaucoma and potential initiation of Phase 3 clinical trials
  - Completion of Phase 2 trials for OTX-DP for treatment of allergic conjunctivitis and possible submission of an NDA supplement to the FDA

Near-term Milestones

- **Initiate enrollment for Phase 2b trial for OTX-TP to treat glaucoma**
- **Phase 2 results for OTX-DP in allergic conjunctivitis**
- **Complete feasibility studies for Anti-VEGF hydrogel depot**
- **Phase 3 results for OTX-DP post-surgical inflammation and pain, and plan for submission of NDA 2Q 2015**

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