Comparison of Suprachoroidal and Intravitreal Injection Flow Mechanics Analyzed via Multimodal Imaging

Dennis M. Marcus, MD

Southeast Retina Center, P.C.

Clinical Professor of Ophthalmology, Medical College of Georgia, Augusta, GA



Southeast Retina Center, P.C.

Co-authors: Cherry Wan, PhD¹ Thomas A. Ciulla, MD, MBA¹ 1. Clearside Biomedical, Inc.

The Retina Society
54th Annual Scientific Meeting
September 29 – October 2, 2021



Financial Disclosures

DM:

Consultant: Regenxbio, Genentech/Roche

Research Grants: Allergan, Aiviva, Amgen, Boehringer Inglheim, Alcon, Aerpio, Kalvista, Ionis, Xplore, Mylan, Samsung, Novartis, Opthea, Chenghdu, Clearside, Astellas, Allegro, Alimera, Ophthotech/Iveric, Outlook, Gemini, Genentech, ThromboGenics, Tyrogenex, Graybug, Topcon, Optos, Gyroscope, Stealth Spiam, Aerie, Apellis, Roche, Novartis, OHR, Xplore, Regenxbio, Kodiak, Zeiss, Annexon, and Regeneron Pharmaceuticals

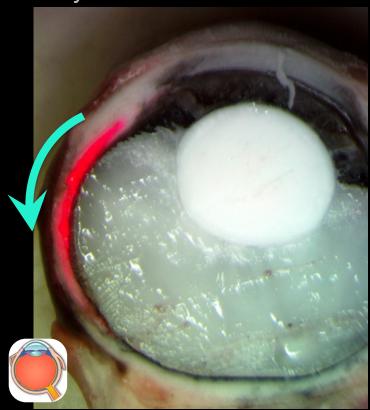
CW, TC:

Clearside Biomedical, Employment & Shareholder

Core Advantages of Treating via the Suprachoroidal Space

Compartmentalized

Away from non-diseased tissues



Visualized via cryofreeze and sectioning

Targeted Delivery

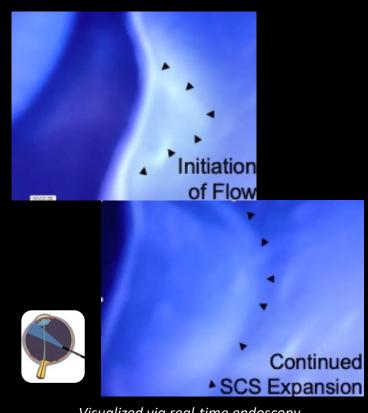
Directly to posterior tissues



Visualized via fluorescing dye under UV light

Bioavailable

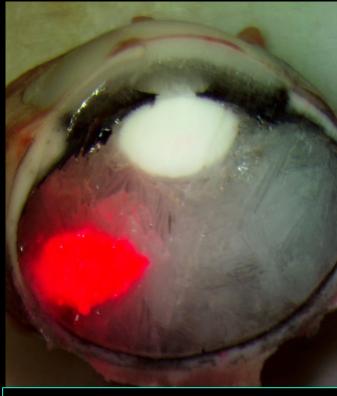
Bathing choroid & adjacent tissues



Visualized via real-time endoscopy

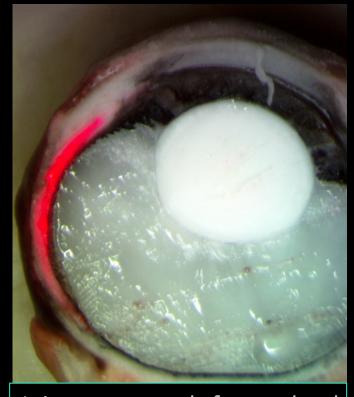
Suprachoroidal injection shows posterior and diffuse spread; IVT injection shows injectate bolus in vitreous

Intravitreal Injection



Injectate located as a bolus in the vitreous

Suprachoroidal Injection



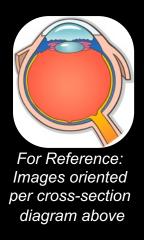
Injectate spreads from scleral spur towards macula



Dye injected followed by immediate freezing, then sectioned across injection plane

Suprachoroidal injectate spreads immediately in circumferential and posterior directions

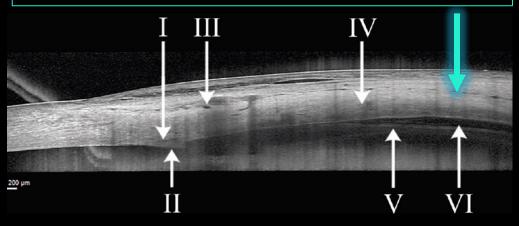




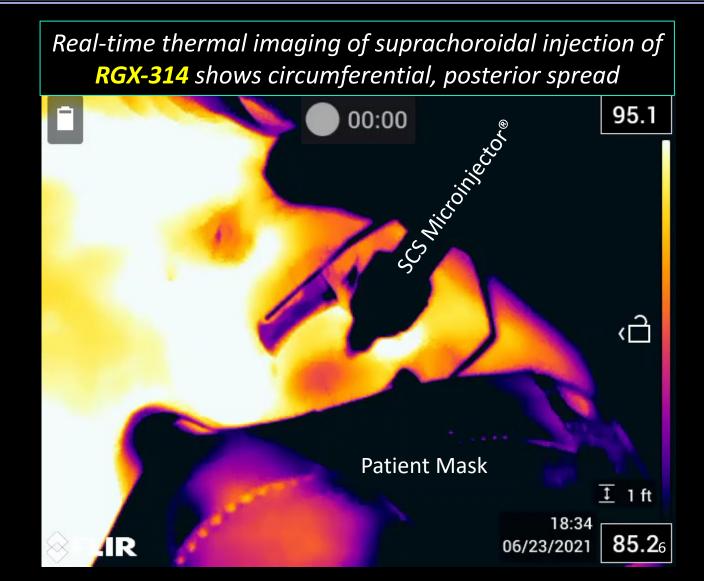
Fluorescing dye Injected under UV Light, filmed in real time

Clinical read through with in-office suprachoroidal injections

AS-OCT 30 minutes after suprachoroidal injection of **CLS-TA** shows expansion of SCS beyond the scleral spur



Lampen SIR, Khurana RN, Noronha G, Brown DM, Wykoff CC. Suprachoroidal Space Alterations Following Delivery of Triamcinolone Acetonide: Post-Hoc Analysis of the Phase 1/2 HULK Study of Patients With Diabetic Macular Edema. Ophthalmic Surg Lasers Imaging Retina. 2018;49(9):692-697. doi:10.3928/23258160-20180831-07

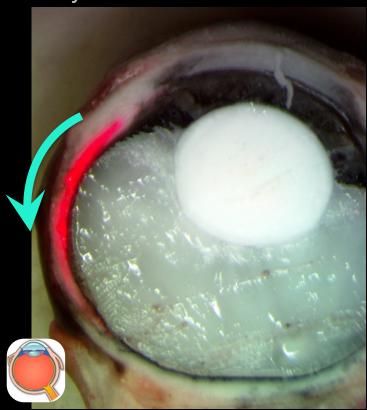


CLS-TA: Investigational formulation of triamcinolone acetonide injectable suspension RGX-314: Investigational gene therapy AAV8 vector expressing an anti-VEGF Fab

Core Advantages of Treating via the Suprachoroidal Space

Compartmentalized

Away from non-diseased tissues



Visualized via cryofreeze and sectioning

Targeted Delivery

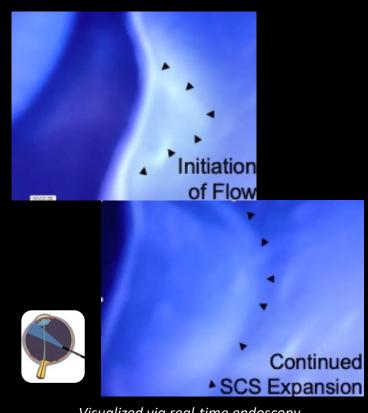
Directly to posterior tissues



Visualized via fluorescing dye under UV light

Bioavailable

Bathing choroid & adjacent tissues



Visualized via real-time endoscopy