

The Frequency and Duration of Post-Injection Discomfort in Patients Receiving Anti-VEGF Injections: A Quality Improvement Project

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Date: September 2020



Stanford
Retina

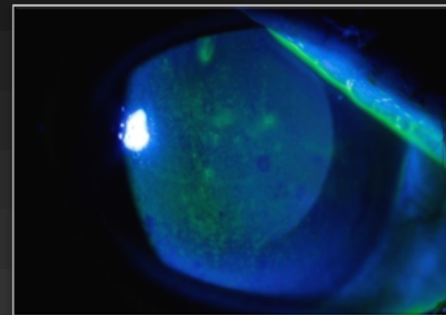
Relevant Financial Disclosures

- Smith SJ: iRenix Medical, Inc (employee, equity)

Summary

- Post-injection pain lasting hours to days is common following intravitreal anti-VEGF injections
- Approximately 60% of subjects report taking their injection day off to recover
- 38% of subjects report experiencing moderate discomfort (4-7/10) 6 hours after intravitreal injection therapy (IVT), a mean pain level higher than what is frequently reported during the injection itself
- Improving the injection experience would be valuable for patients, most of whom report willingness to explore additional options to improve their post-injection experience

Post-IVT pain is common and results in significant inconvenience for patients



Introduction – IVT from the patient perspective

- Despite the frequency of IVT, there are comparatively few data on patients' post-IVT experience
- Our team designed and administered a prospective quality improvement survey with the goal of capturing data on real-life patient experiences post IVT
- The primary goal was to see if patients' experience after IVT matches the commonly held assumption that IVT is “well tolerated”, particularly considering the frequency of this procedure

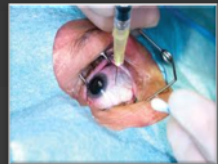
Ocular anesthesia
(5-10 mins)



Ocular betadine



Inject (<1 min)



- IRB exemption was granted for this prospective quality improvement project
- The survey was administered at 2 locations: Byers Eye Institute (Palo Alto, CA) and Associated Retina Consultants (Royal Oak, MI)
- A total of 17 questions were asked, covering the post-injection experience and patients' overall assessment of IVT
 - Subjects who reported NEVER experiencing post-IVT pain were exited from the survey after the first 5 questions
- Pain was assessed via the visual analog scale (VAS), 0 = no pain, 10 = the worst pain imaginable
- No Personal Health Information was collected
- Demographic data collected included gender and age
- Data was collected in early March 2020, and the study was halted after approximately 10 days due to COVID-19

- 104 subjects receiving intravitreal injections completed the survey (93 from Byers Eye Institute)
- 53% of respondents were male; mean age for all subjects was 75.1 ± 12.4 years
- Pain Data
 - 86.5% (90/104) report having experienced post-IVT discomfort at least once, with 13.5% (14/104) reporting never experiencing post-IVT discomfort
 - 70.2% (73/104) report usually having post-IVT discomfort
 - Mean post-IVT pain was rated as mild (1-3 out of 10) in 51.1% (46/90), moderate (4-7 out of 10) in 38.9% (35/90) and severe (8-10 out of 10) in 11.1% (10/90)
 - Severe pain (8-10 out of 10) occurred at least once following IVT in 29% of subjects



- Post-IVT pain resolution varied, with most completely back to normal by the next day (78.9%). However, 7.7% stated that their eye was not back at baseline for a minimum of 3-7 days
- Methods to mitigate post-IVT pain included the following:
 - Taking the day off to rest the eye: 60%
 - Requesting extra rinsing post IVT: 46.6%
 - Use of artificial tears: 31.1%
 - Tylenol/Ibuprofen/Other pain meds (including narcotics): 22.2%
 - Cool compresses: 21.1%

- Post-injection pain was not significantly associated with the total number of intravitreal injections a subject had received ($p = 0.44$), and 16.6% of subjects reported that post-injection pain affected their decision to continue receiving injections
- 81.1% (73/90) would find an eye drop that improved their post-IVT experience valuable, and 91.7% of these (67/73) would be willing to pick it up at a pharmacy and pay a co-pay if it might help reduce irritation post-IVT

- Most studies of injection pain show a mean of approximately 2-3 out of 10 (VAS pain scale)¹
- The present study suggests that patients continue to have pain equal to that of the moment the needle enters the eye for hours to days after their injection, with a small subset (approximately 10%) experiencing severe pain
- Post-IVT discomfort is marked enough to require the majority of patients to restrict their usual activities for at least 1 day
- Strategies to mitigate post-IVT pain are needed
 - Based on this survey, there is a broad openness to exploring methods to reduce post-injection discomfort and hasten the return to baseline

1. Blaha GR, Tilton EP, Barouch FC, Marx JL. Randomized trial of anesthetic methods for intravitreal injections. Retina 2011;31(3):535-9.

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