A Cross sectional study: To evaluate the patients' experience of pain and dry eye symptoms following topical anaesthesia for Intravitreal injection.

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Introduction

A number of studies have compared anaesthetic techniques for Intravitreal injection. [1 - 5]

No evidence has been found which reports on any ocular surface symptoms that patients may experience as they recover from topical anaesthetic drops after Intravitreal injection.

Aims

The aim of this study was to evaluate the patients' experience of pain and dry eye following Intravitreal injection, comparing different anaesthetic regimes.

Methods

This was a cross sectional questionnaire based study for patients receiving Intravitreal injections of anti-VEGF over a two week period (see Table 1 for the baseline characteristics).

77 patients completed a validated pain score (VAS)[6] (See figure 1) and dry eye (SPEED)[7] questionnaire (see figure 2), post injection and after 24 hours, over a two week period.

Descriptive statistics were used to determine the outcome of the study.

A Wilcoxon Signed Ranks Test was run to determine a difference in pain score and dry eye score post injection and after 24 hours.

A Kruskall Wallis test was used to see if there was any difference in pain or dry eye scores for the number of anaesthetic drops used.

Group 1 = 2 drops
Group 2 = 3 – 4 drops
Group 3 = 5 drops

Results

There was no significant difference in pain scores post injection and at 24 hours (p= 0.550). However, there was a significant difference in dry eye scores post injection and after 24 hours (p= <0.001). The mean score for dry eye post injection was 1.01 and at 24 hours was 3.95.Wilcoxon Signed Ranks Test.

Patients who received 5 anaesthetic drops reported significantly higher baseline pain scores than patients who received 4 or fewer drops (p= 0.05). A mean rank pain sore of 33.95 for group 1,35.29 for group 2 and 47.94 for group 3. There were no differences in patients pain scores across the three groups at 24 hours. Dry eye scores did increase as the number of drops increased but these results were not statistically significant (p=0.84). Kruskall Wallis test.

Table 1: Baseline characteristics of participants

	Values, (*n* = 77)
Age,y,mean +SD	76 SD 8.9
Gender,*n, (%)*	
Male	27 (35)
Female	50 (65)
Injection site.*n* (%)	
inferotemporal	63(82)
superotemporal	14 (18)
Indication for treatment	
nAMD	55 (71)
RVO	17 (22)
DMO	5 (7)

n- AMD = neovascular age-related macular degeneration.
RVO = retinal vein occlusion; DMO = diabetic macular oedema

Table 2: Pain & dry eye scores post injection & at 24 hours

number = 77	Median	Inter Quartile Range	p value
Pain score post injection	1.0	2.0	
pain scores at 24 hours	0	2.0	.550
Dry eye score post injection	0	1.5	
dry eye scores at 24 hours	2.0	6.0	.000

Conclusion

Dry eye scores significantly increased across the sample at 24 hours compared to baseline.

Management of dry eye symptoms with lubricating drops should be explained to patients, to minimise discomfort and improve recovery.

Figure 1: Visual analogue pain score

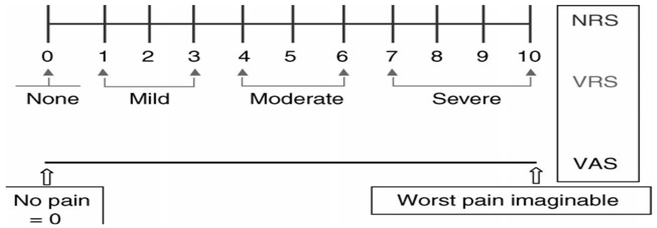


Figure 2: Scoring for the SPEED questionnaire

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1. Report the type of SYMPTOMS you experience and when they occur:

Symptoms	At this visit Yes	At this visit No	Within past 72 hours Yes	Within past 72 hours No	Within past 3 months Yes	Within past 3 months No
Dryness, Grittiness or Scratchiness						
Soreness or Irritation						
Burning or Watering						
Eye Fatigue						

2. Report the FREQUENCY of your symptoms:

	0	1	2	3
Dryness, Grittiness or Scratchiness				
Soreness or Irritation				
Burning or Watering				
Eye Fatigue				

Response Options: 0 = Never; **1** = Sometimes; **2** = Often; **3** = Constant

Recommendation

Further studies are needed on the side effects patients experience following different anaesthetic regimes for Intravitreal injection.

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