

Cornea

Dry Eye in Rheumatoid Arthritis: tear film osmolarity and inflammation.

--Manuscript Draft--

Manuscript Number:	CORNEA-D-14-00721
Full Title:	Dry Eye in Rheumatoid Arthritis: tear film osmolarity and inflammation.
Article Type:	Letter to the Editor
Corresponding Author:	Edoardo Villani, MD University of Milan Milan, Milan ITALY
Corresponding Author Secondary Information:	
Corresponding Author's Institution:	University of Milan
Corresponding Author's Secondary Institution:	
First Author:	Edoardo Villani, MD
First Author Secondary Information:	
Order of Authors:	Edoardo Villani, MD Paolo Nucci
Order of Authors Secondary Information:	
Manuscript Region of Origin:	ITALY

Dry Eye in Rheumatoid Arthritis: tear film osmolarity and inflammation.

Edoardo Villani, MD¹

Paolo Nucci, MD¹

1. Department of Clinical Sciences and Community Health, University of Milan. Eye Clinic

San Giuseppe Hospital, Milan, Italy

Correspondence:

Edoardo Villani, Eye Clinic San Giuseppe Hospital, via San Vittore 12, 20123, Milan, Italy

Email: edoardo.villani@unimi.it

Conflict of Interest Disclosures: None for all the authors

Funding source: none

Key words: dry eye, inflammation, osmolarity, Rheumatoid Arthritis, confocal microscopy

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

To the Editor:

We read with great interest the article entitled “Correlation Between Tear Film Osmolarity, Dry Eye Disease, and Rheumatoid Arthritis” by Schargus M et al.¹

The authors of this cross-sectional cohort study concluded that tear film osmolarity correlates positively with RA activity and that patients with RA with high disease activity are at an increased risk of developing DED with high tear osmolarity values. Contrary to Fujita et al.,² the authors found similar correlations between DED and RA activity in both patients with and without secondary Sjogren Syndrome (SSII) and they attributed these findings to the use of osmolarity as a diagnostic tool.

In the last years, our group published 2 researches on DED in RA,^{3,4} focusing on inflammation. We reported data on in vivo confocal microscopy inflammatory and neuro-inflammatory parameters, correlating with RA activity in both patients with and without secondary SSII.³ Moreover, in RA with SSII subjects, corneal sub-basal dendritic cell density and tear fluid concentrations of IL-1a and IL-6 significantly decreased after remission of the RA activity (defined as DAS 28 <2.6), obtained by systemic therapy without topical interventions.⁴

We think our findings to be complementary to the interesting data by Schargus M et al.¹, providing not yet fully understood insights into the pathogenesis of DED in RA and into the relationship between ocular surface osmolarity and inflammation.

References

1. Schargus M, Wolf F, Tony HP, Meyer-Ter-Vehn T, Geerling G. Correlation Between Tear Film Osmolarity, Dry Eye Disease, and Rheumatoid Arthritis. *Cornea*. 2014 Sep 24. [Epub ahead of print]
2. Fujita M, Igarashi T, Kurai T, Sakane M, Yoshino S, Takahashi H. Correlation between dry eye and rheumatoid arthritis activity. *Am J Ophthalmol*. 2005;140:808-13.
3. Villani E, Galimberti D, Viola F, Mapelli C, Del Papa N, Ratiglia R. Corneal involvement in rheumatoid arthritis: an in vivo confocal study. *Invest Ophthalmol Vis Sci*. 2008;49:560-4.
4. Villani E, Galimberti D, Del Papa N, Nucci P, Ratiglia R. Inflammation in dry eye associated with rheumatoid arthritis: cytokine and in vivo confocal microscopy study. *Innate Immun*. 2013;19:420-7.

Villani LWW Copyright Transfer and Disclosure Form

[Click here to download LWW Copyright Transfer and Disclosure Form: letter cornea copyrightTransfer.pdf](#)

Nucci LWW Copyright Transfer and Disclosure Form

[Click here to download LWW Copyright Transfer and Disclosure Form: nuccicornealettercopyrightTransfer-1.pdf](#)