

OMEGA-7 SUPPLEMENTATION WITH SEA BUCKTHORN OIL IN SJOGREN DRY EYE DISEASE: CASE REPORT

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CONFLICT OF INTEREST DISCLOSURE

☑ I have the following potential disclosure to report

Speaker: Caitriona Shelley

Disclosures:

- Dr. Mila Ioussifova has served as a consultant for Scope Eyecare and received honoraria.
- Dr. Edel Duffy, Dr. Shovan Bhattacharrya, and Caitriona Shelley are employees of Scope Eyecare / Scope Ophthalmics.
- The intervention discussed includes Eyetamins Eye Comfort (sea buckthorn oil omega-7).



EUROPEAN DRY EYE SOCIETY CONGRESS
EuDEC
JUNE 18-20, 2026
MELIA HOTEL
MILAN, ITALY





Background

- Sjögren's Keratoconjunctivitis Sicca is an autoimmune dry eye subtype characterized by aqueous deficiency, inflammation, tear instability and Meibomian gland dysfunction.¹
- Patients may remain symptomatic despite topical immunomodulators and advanced supportive therapies.
- Omega-7 (palmitoleic acid) from sea buckthorn oil is an emerging nutritional adjunct in dry eye.
- Palmitoleic acid systemic status can be tracked in fatty acid profiles.
- Clinical and pre-clinical studies have demonstrated:
 - Attenuation of **tear osmolarity**²
 - Improvements in ocular symptoms²,
 - Impact on **inflammatory markers**³.A
 - Support of **mucous membrane health**³;
 - Pre-clinical findings indicating **restoration of lacrimal gland tear secretion**⁴.



Himalayan Sea Buckthorn Berries



1. Salvatet, M. L., et al. (2025) Applied Sciences, 15(9),5076. 2. Larmo, P. S., (2010). The Journal of Nutrition, 140(8), 1462–1468.
3. Chan, et al. (2024). I. Journal of Functional Foods, 112, 105973. 4. Nakamura, S et al. (2017). Nutrients, 9(4),364.



Purpose & Methods

Evaluate systemic uptake of omega-7 from sea buckthorn oil supplementation.

Evaluate associated changes in tear osmolarity, ocular surface inflammation, and symptom severity in a 4 month period; observed within routine clinical care and multimodal therapy.





Methods: Patient Profile & Baseline

Patient Profile



- 68-year-old female
- Sjögren's syndrome, Hashimoto thyroiditis, hypertension and arthritis.

Baseline Medications



- Levothyroxine, antihypertensives, cevimeline, fish oil 1 g/day, flaxseed oil 2 g/day.
- Ocular therapies: cyclosporine 0.05% BID, autologous serum tears 50%.



Baseline Assessments

Baseline Assessment	Units	Measurement
SPEED	(0–28, unitless symptom score)	16
Tear Osmolarity (OD/OS)	mOsm/L	296/295
MMP-9 (OD/OS)	Qualitative	negative/ trace positive
Palmitoleic acid	Percentage (%) of total fatty acids	0.37%





Concurrent Therapies Standard of Care

Additional management during period:

- IPL (4 sessions)
- Cyclosporine 0.05% discontinued and 0.09% BD initiated
- Blepharitis management
- Serum drops continued

Intervention Added (Omega-7)

- Sea buckthorn oil 2000 mg/day (Eyetamins Eye Comfort), taken with food.
- Duration: 4 months.
- Omega-7 status tracked via blood palmitoleic acid percentage.





Results

Assessment	Unit	Baseline	4 Months
SPEED	(0–28, unitless symptom score)	16	12 (25% reduction)
Tear Osmolarity (OD/OS)	mOsm/L	296/295	278/287
MMP-9 (OD/OS)	Qualitative	Negative/ trace positive	Negative OU
Palmitoleic acid	Percentage (%) of total fatty acids	0.37%	0.93% (+151% increase)





Conclusion & Interpretation

- Omega-7 supplementation in a refractory Sjögren's dry eye case coincided with improved symptoms, reduced osmolarity, and resolution of MMP-9.
- Large rise in palmitoleic acid supports systemic uptake of omega-7 during the improvement period.
- Observed within multimodal therapy and ongoing omega-3 use; controlled studies needed.
- Disclosures as stated.

