About OMICS Group

OMICS Group International is an amalgamation of Open Access publications and worldwide international science conferences and events. Established in the year 2007 with the sole aim of making the information on Sciences and technology 'Open Access', OMICS Group publishes 400 online open access scholarly journals in all aspects of Science, Engineering, Management and Technology journals. OMICS Group has been instrumental in taking the knowledge on Science & technology to the doorsteps of ordinary men and women. Research Scholars, Students, Libraries, Educational Institutions, Research centers and the industry are main stakeholders that benefitted greatly from this knowledge dissemination. OMICS Group also organizes 300 International conferences annually across the globe, where knowledge transfer takes place through debates, round table discussions, poster presentations, workshops, symposia and exhibitions.

About OMICS Group Conferences

OMICS Group International is a pioneer and leading science event organizer, which publishes around 400 open access journals and conducts over 300 Medical, Clinical, Engineering, Life Sciences, Phrama scientific conferences all over the globe annually with the support of more than 1000 scientific associations and 30,000 editorial board members and 3.5 million followers to its credit.

OMICS Group has organized 500 conferences, workshops and national symposiums across the major cities including San Francisco, Las Vegas, San Antonio, Omaha, Orlando, Raleigh, Santa Clara, Chicago, Philadelphia, Baltimore, United Kingdom, Valencia, Dubai, Beijing, Hyderabad, Bengaluru and Mumbai.

Phthalates Vs Time and W_p/V_s Ratio

Solute	$[Solute]_{Init}$, mg/mL	$[Solute]_{obs}$, mg/mL	W_P, mg	V_S, mL	Temp ºC	Time, hr	$100*F_{soln}$
DMP	0.30	0.070	18.2	0.1	37	1	23
DMP	0.30	0.108	18.0	0.2	37	1	36
DMP	0.30	0.148	20.5	0.3	37	1	49
DMP	0.30	0.156	20.2	0.4	37	1	52
DMP	0.30	0.129	17.9	0.2	37	0.25	43
DMP	0.30	0.118	21.2	0.2	37	0.5	39
DMP	0.30	0.122	21.1	0.2	37	1	41
DMP	0.30	0.127	18.5	0.2	37	2	42
DEP	0.30	0.014	18.2	0.1	37	1	4.7
DEP	0.30	0.029	18.0	0.2	37	1	10
DEP	0.30	0.051	20.5	0.3	37	1	17
DEP	0.30	0.056	20.2	0.4	37	1	19
DEP	0.30	0.050	17.9	0.2	37	0.25	17
DEP	0.30	<LOD	21.2	0.2	37	0.5	*
DEP	0.30	0.034	21.1	0.2	37	1	11
DEP	0.30	0.036	18.5	0.2	37	2	12
DPP	0.30	<LOD	18.2	0.1	37	1	*
DPP	0.30	0.002	18.0	0.2	37	1	0.6
DPP	0.30	0.008	20.5	0.3	37	1	2.8
DPP	0.30	0.006	20.2	0.4	37	1	2.1

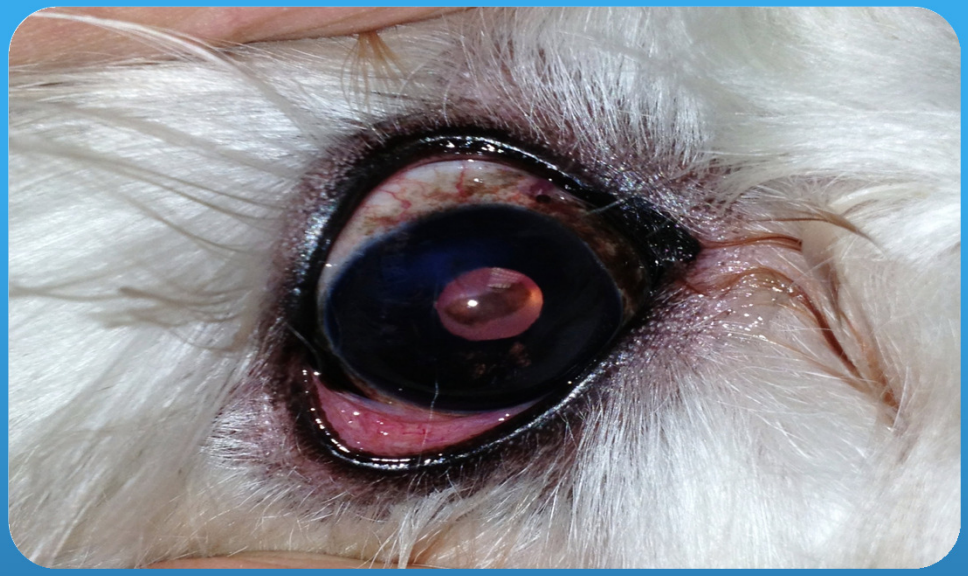
4th International Conference on
Clinical & Experimental Ophthalmology
July 14-16, 2014 DoubleTree by Hilton Baltimore, USA

AN INTRIGUING NUTRACEUTICAL APPROACH IN DOGS AFFECTED B KERATOCONJUNCTIVITIS SICCA

Palmieri B, Destefanis S, Giretto D, Muscolo C, Di Cerbo A, Guidetti G, Canello S

UNIVERSITÀ DEGLI STUDI DI MODENA E REGGIO EMILIA

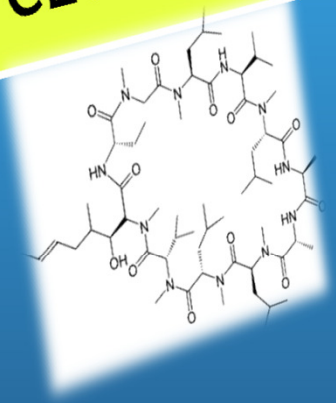
AIRMO
ASSOCIAZIONE ITALIANA per la RICERCA sulle MALATTIE ONCOLOGICHE



Keratoconjunctivitis sicca (KCS) is a corneo-conjunctiva progressive inflammatory disease affecting either humans and dogs with tears production impairment and several ocular symptoms triggered by autoimmune imbalance.

CURRENT THERAPIES

CYCLOSPORINE



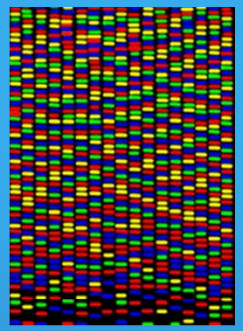
TACROLIMUS OINTMENT

ARTIFICIAL TEARS

STEROID DROPS

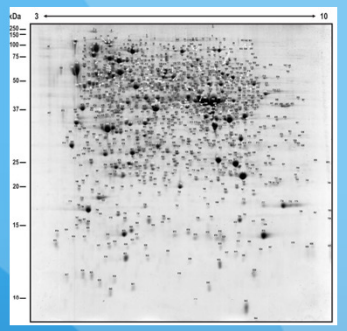
AIM OF THE WORK

Evaluation of the complementary role of a 2 months administration (**AIRMO Center**) of a nutraceutical food in dogs whose immunosuppressive treatment had proven inadequate



STUDIES

Almost 10 years ago…



genomic

proteomic

PETS

HUMANS

AIRMO Research Center

Endorsed by Unimo e Unina

Network of Human and Vet comparative: oncology, inflammation and neurodegeneration physiopathology, health maintenance, nutrition prevention and treatment

HOME | DI COSA CI OCCUPIAMO | LA RICERCA ECOSOSTENIBILE | PREVENIRE SI PUÒ | COME PUOI SOSTENERCI | LA STRUTTURA DI AIRMO

Focus on oncology with pet animals as sentinels of human diseases and potentital recognition of health imbalances especially in old seek people

J Cancer Res Clin Oncol
DOI 10.1007/s00432-014-1664-9

REVIEW – CANCER RESEARCH

Onco-epidemiology of domestic animals and targeted therapeutic attempts: perspectives on human oncology

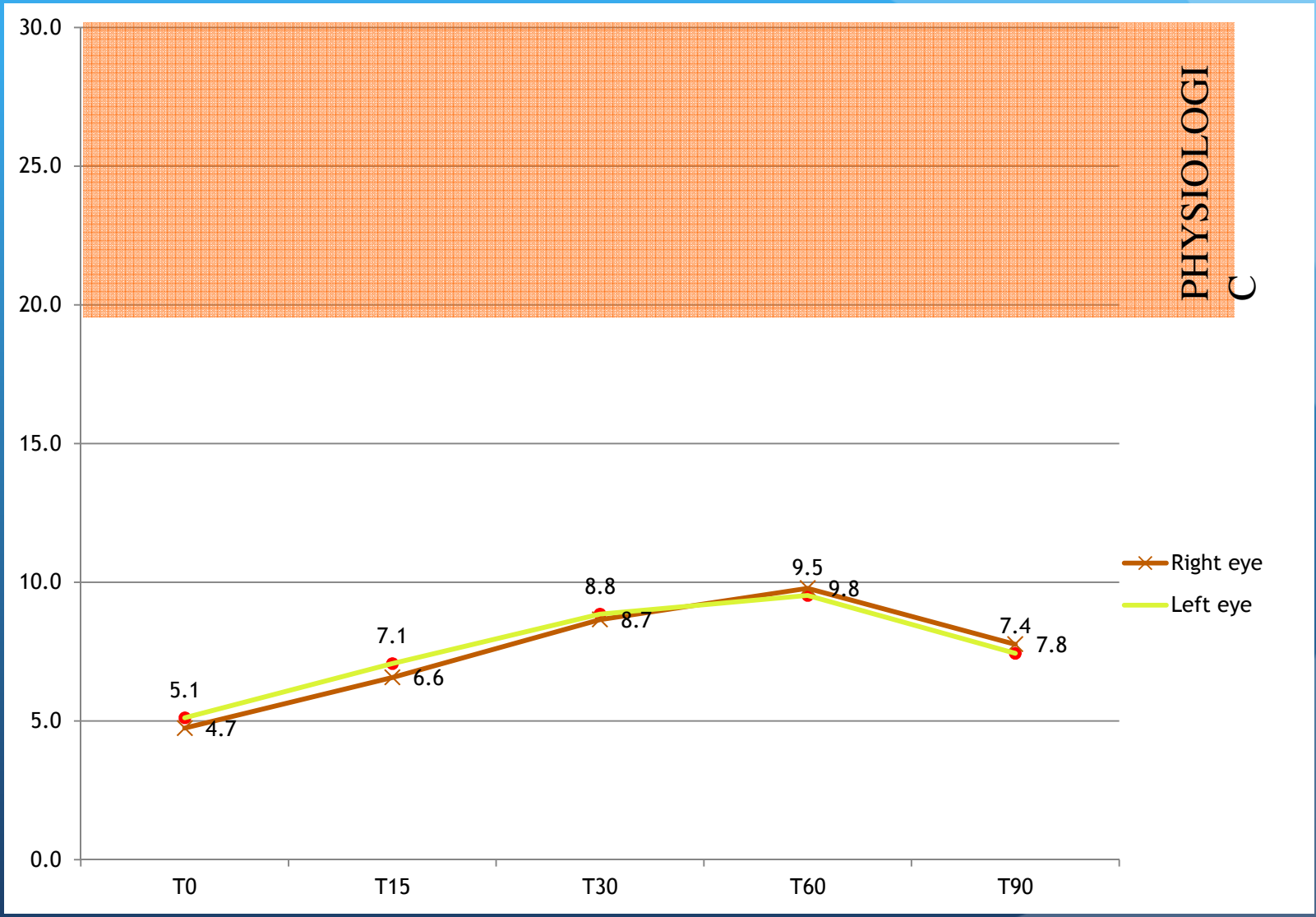
Alessandro Di Cerbo · Beniamino Palmieri ·
Gionata De Vico · Tommaso Iannitti

furthermore to comparatively explore the human/pet common background for more effective strategies in human health and disease

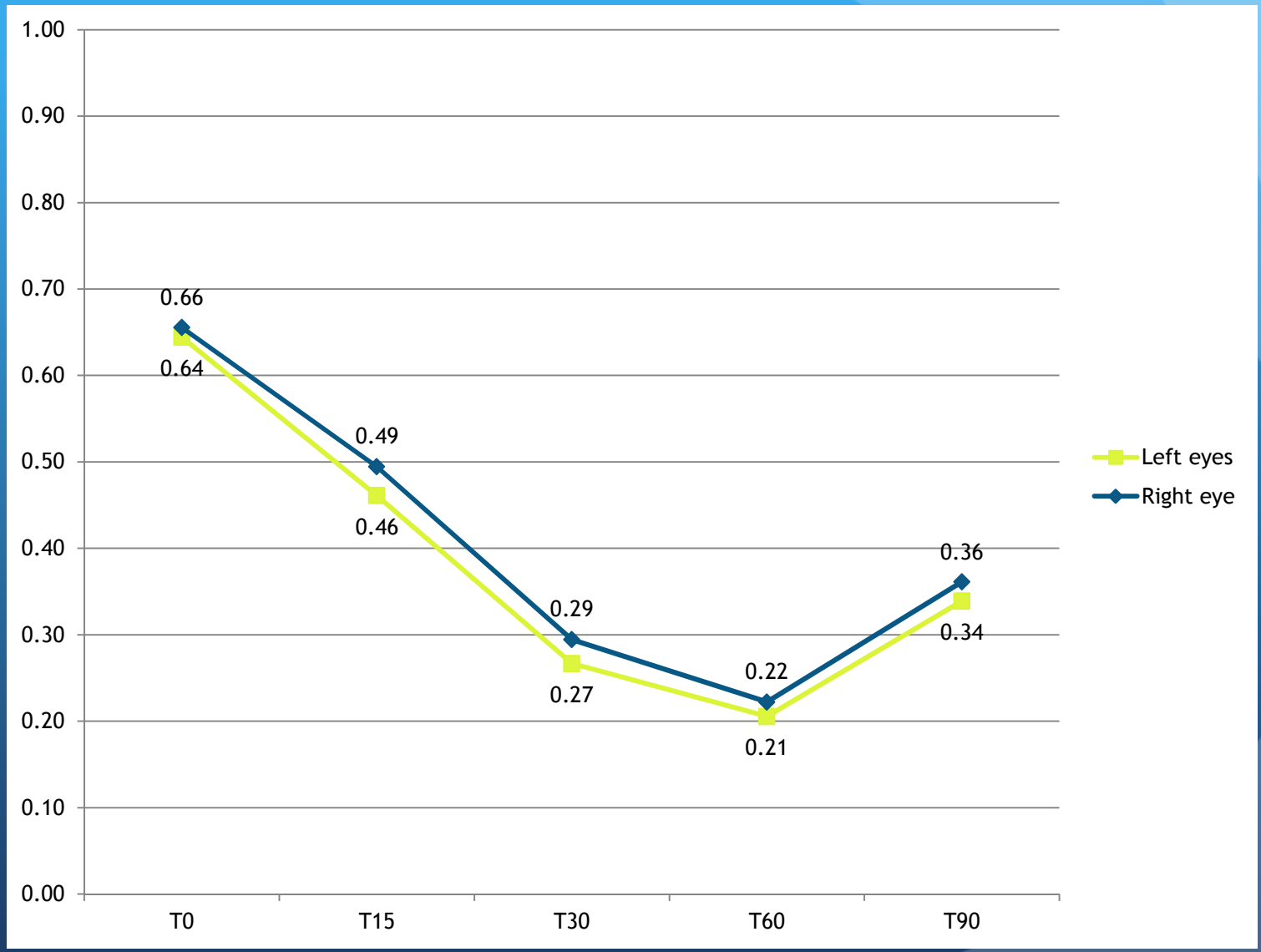
THE STUDY

49 dogs of different breeds (mean age ± SEM; 6.01 ± 0.11 yr and mean weight ± SEM; 35.04 ± 1.04 Kg; 54% males, 46% females) with immune related Keratoconjunctivitis sicca symptoms (**blepharospasm**, **mucopurulent ocular discharge**, **conjunctival chemosis and hyperemia**, **exposure keratitis with opacity appearance**, **vascularization and corneal pigmentation**) were supplied with a regular amount of nutraceutical product named **FORZA10 Immuno Ophthalmic** over a 60 days period.

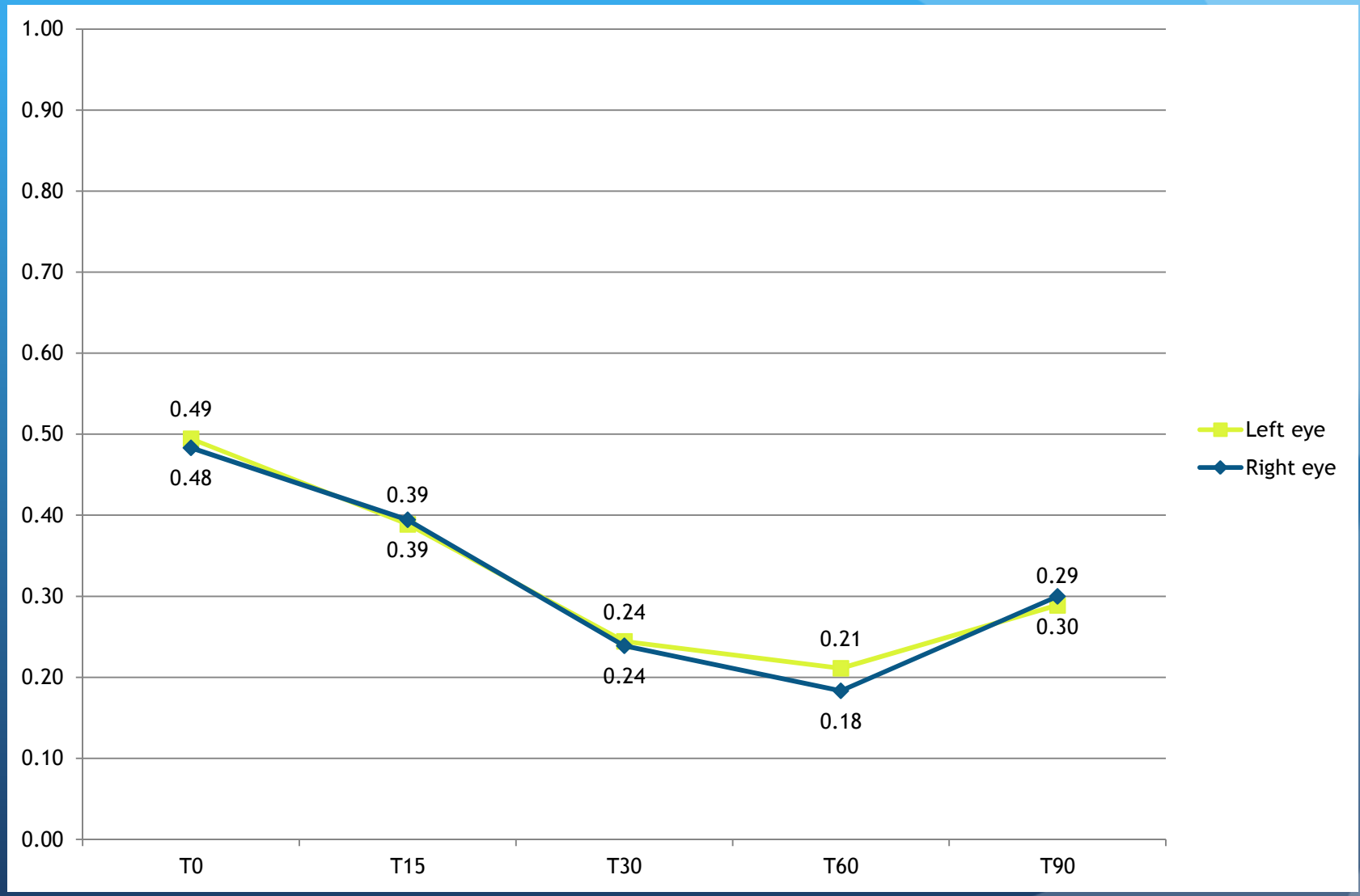
SHIRMER TEST AVERAGE VALUES



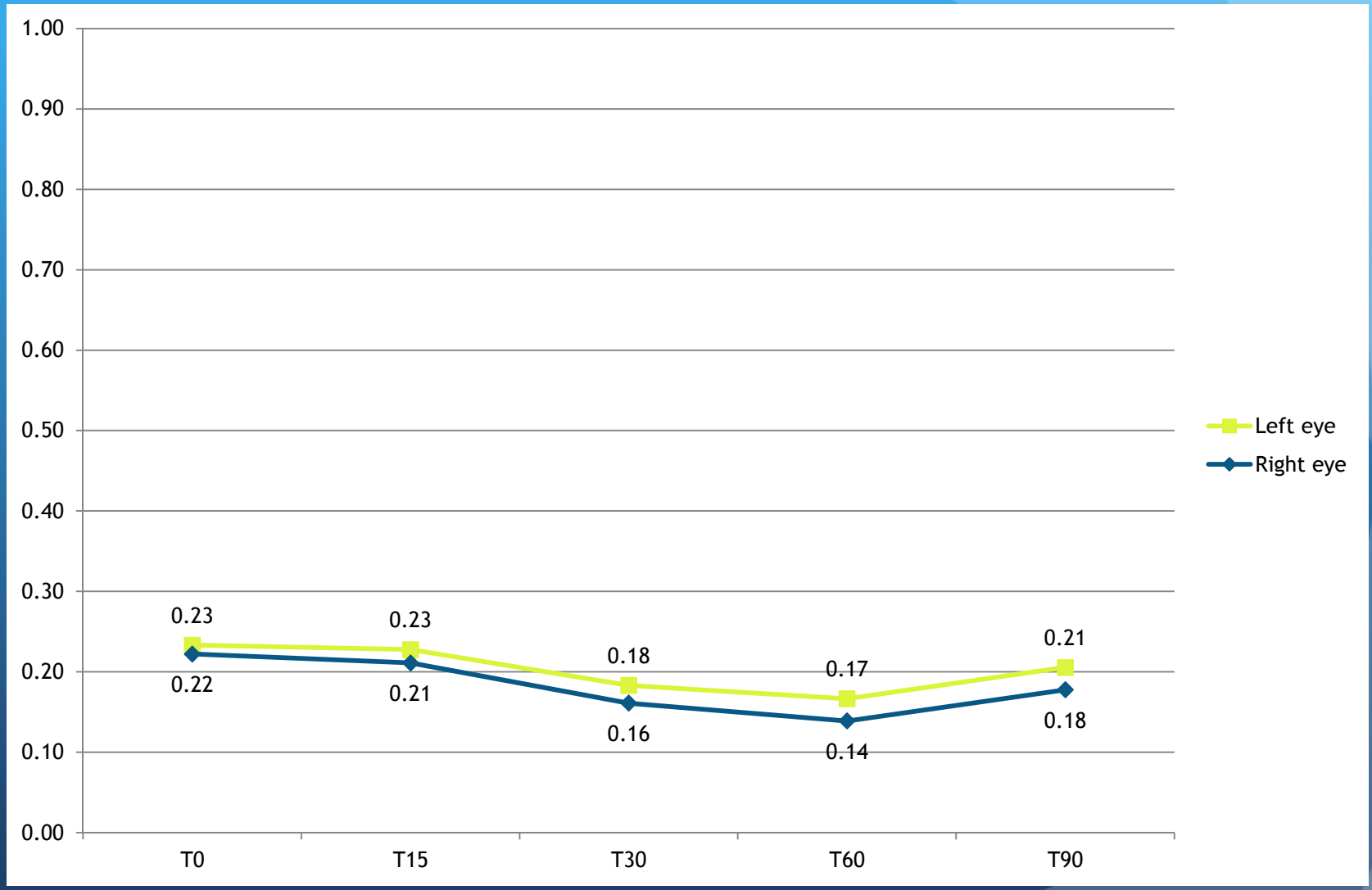
CONJUNTIVITIS AVERAGE INTENSITY



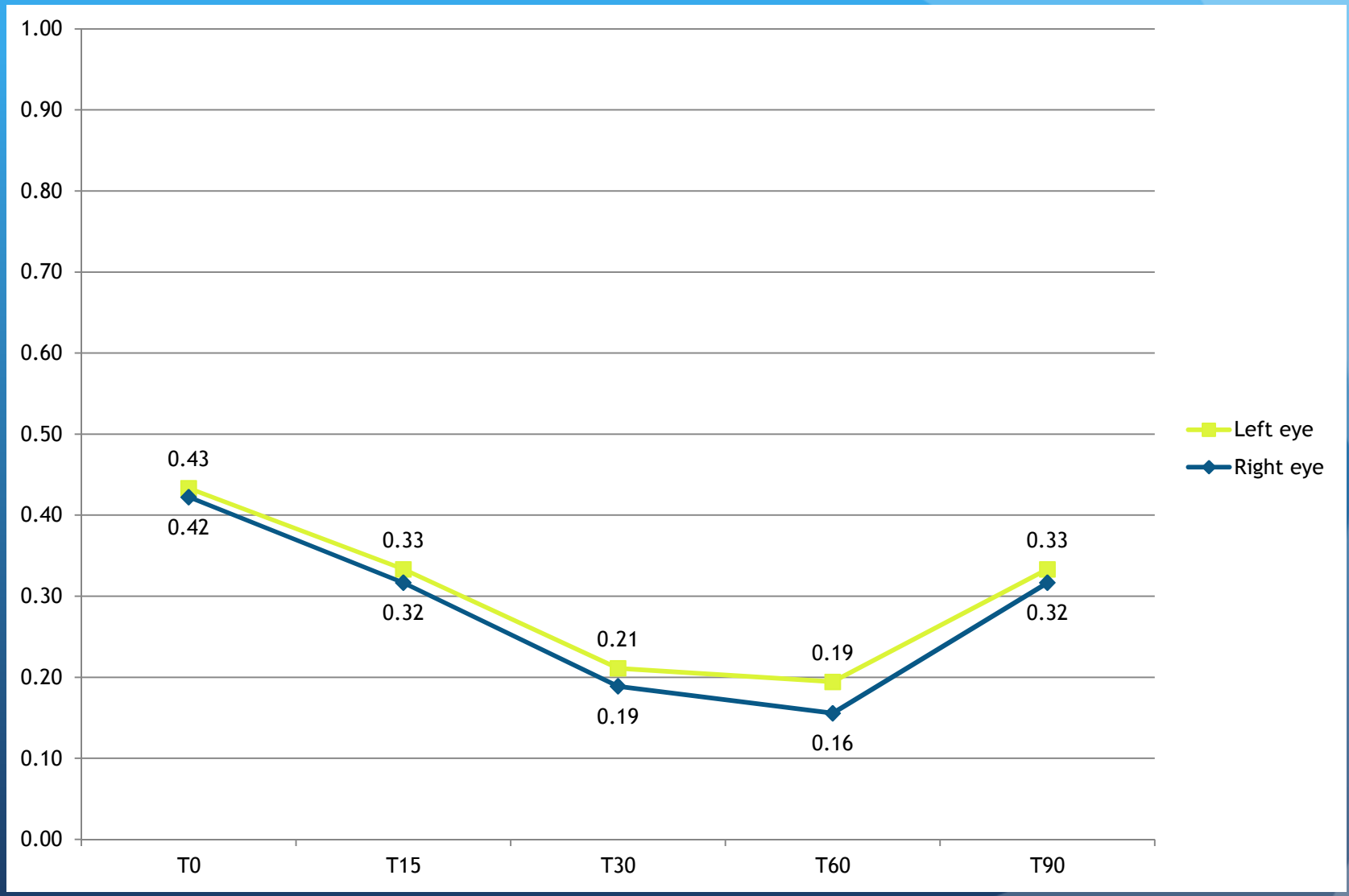
KERATITIS AVERAGE INTENSITY



CORNEAL PIGMENTATION AVERAGE INTENSITY



MUCUS AVERAGE INTENSITY



THE NUTRACEUTICAL FORMULA

- fish proteins
- rice carbohydrates
- mellon superoxid dismutase
- *Ascophyllum*
- Astaxantina
- *Aloe vera*
- papaya
- *Punica granatum*
- Green tea
- *Polygonum lapathifolium*
- Curcuma
- Piper nigrum
- Zinc
- Omega 3/6 ratio of 1:0.8

ON THE HUMAN SIDE…

Mellon superoxide dismutase: antioxidant and anti-inflammatory properties **(Vouldoukis et al. 2004)**

Ascophyllum nodosum reduction in subjective hunger sensations, increase in satiety and **fullness (Mayer et al. 2014)**; α-amylase and α-glucosidase inhibition activity **(Kim et al 2014)**; antioxidant activities **(Abu et al 2013);** antitumor activity through the activation of the host immune system **(Jiang et al. 2014)**

Astaxantin: neuroprotective effect in rats through suppression of cerebral inflammation downregulating NF-κB activity and the expression of inflammatory cytokines and intercellular adhesion molecule-1 in both messenger RNA transcription and protein synthesis **(Zhang et al. 2014)**; Protective effect on liver fibrosis in mouses by decreasing the alanine aminotransferase aspartate aminotransferase and hydroxyproline levels and decreasing the expression of NF-κB and TGF-β1 and maintaining the balance between MMP2 and TIMP1 **(Shen et al. 2014);** nephropathy amelioration in rats by decreasing the malondialdehyde (MDA) and protein carbonyl (PCO) levels **(Sila et al. 2014)**

Aloe vera: anthrone, chromone, aloe verasin, and hydroxyaloin, **antiinflammatory activity** (**Hu, 2003**); **immune stimulation** by polyglucans, lectins (Aloctin 1) which significantly support the formation of specific and nonspecific antibodies (Boudreau and Beland, 2006, Akev 2007); Glucmannan and acemannan accelerate **wound healing, activate macrophages, antineoplastic and antiviral effects** (**Zhang, 1996; Ramamoorthy, 1996**)

Papaya: anti-tumor activity and immunomodulatory effects by reducing IL-2 and IL-4 production in PBMC, IL-12p40, IL-12p70, IFN-γ and TNF-α enhancment and CCL2, CCL7, CCL8 and SERPINB2 upregulation as index markers of the immunomodulatory activity **(Otsuki et al. 2010)**

Punica granatum: amelioration of diabetic neuropathic pain due to remarkable hypoglycemic activity with drop in the mice glucose levelsand gradual rise in serum CAT activity **(Raafat et al. 2014);** free radical scavenging, anticarcinogenic, anti-inflammatory, and effectiveness in the treatment of cancer, cardiovascular disease, Alzheimer's disease, arthritis, and erectile dysfunction **(Baliga et al. 2013);** α-glucosidase and maltase inhibitory effects due to Triterpenes presence **(Salah et al. 2014)**

Green tea: increase of total antioxidant capacity (T-AOC) and glutathione peroxidase (GSH-Px) activity in liver tissues of Sprague-Dawley rats with induced hepatocarcinogenesis due to a down-regulation of cellular nuclear factor erythroid-2-related factor-2 (Nrf2) and up-regulation of peroxiredoxin-6 (P6) expression (**Zhou et al. 2014);** non-small-cell lung cancer cell line proliferation and B-cell lymphoma-extra large (Bcl-xL) mRNA expression level reduction by Epigallocatechin-3-gallate (EGCg) **(Sonoda et al. 2014)**

***Polygonum lapathifolium*:** high capability of absorbing and accumulating Zn **(Cui et al. 2006)**; significant inhibitory effects on the Epstein-Barr virus early antigen activation by tumor promoters **(Takasaki et al. 2001)**

Curcuma: decrease of inflammatory cytokines expression in the adipose tissue **(Neyrinck et al. 2013)**; strong reduction of PMA-stimulated adhesion and superoxide production, spontaneous apoptosis stimualtion and inhibition of IL8 and Bcl2A1 gene expression of ovine neutrophils **(Farinacci et al. 2009);** downregulation of Th1 cytokine response and NO production by macrophages, and their upregulation in NK cells **(Bhaumik et al. 2000)**

Piper nigrum: its extracts (β-caryophyllene, limonene, sabinene, 3-carene, β-pinene, and α-pinene) are endowed with antioxidant activity **(Bagheri et al. 2014)**

Zinc: Zinc regulate NF-κB activity during innate immune activation (zinc transporter SLC39A8 (ZIP8) is a transcriptional target of NF-κB and functions to negatively regulate proinflammatory responses through zinc-mediated down-modulation of IκB kinase activity in vitro) **(Liu et al 2013)**

Omega 3/6 ratio of 1:0.8: essential for the development of a child's brain **(Bernard et al. 2013)**; reverses endothelial dysfunction and oxidative stress in experimental menopause **(Gortan Cappellari et al. 2013)**; low serum n-3/n-6 polyunsaturated fatty acid ratio is associated with high vulnerability of coronary plaques **(Kashiyama et al. 2011)**

TAKE HOME MESSAGES

- Humanization of domestic animals can be a valuable strategy for dietary interventions studies

- Based on clinical evidences humans and pets might have a very intriguing borderline mutual benefit in the functional foods area

- The lesson of functional foods administration to the dog potentially might be addressed to human beings. Chronic food ingestion might infact modify the genetic background and prevent or treat many diseases

- **Possible gaps in human nutrition**: the taste of functional foods might be a drawback to their prolongued intake; in fact the turnover of varied menus is utmost appealing for human nutrition

- Gut microbiota modulation by probiotics/prebiotics administration may reduce the risk of disease

- "…food will be your medicine…" (Hippocrates)

THANK'S FOR YOUR ATTENTION!

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