

Suggestions on gut-eye cross-talk: about the chalazion

Carla Enrica Gallenga^{1,2}, Marco Mura³, Pier Enrico Gallenga⁴

¹Department of Medical Sciences, University of Ferrara, Ferrara 44124, Italy

²Eye Unit UOC, University Hospital Arcispedale Sant'Anna, Ferrara 44124, Italy

³Department of Translational Medicine and for Romagna, University of Ferrara, Ferrara 44124, Italy

⁴Department of Ophthalmology, Stenella cno, Pescara 65100, Italy

Correspondence to: Carla Enrica Gallenga. Ophthalmology, University Hospital Arcispedale Sant'Anna, via Aldo Moro, Cona-Ferrara 44124, Italy. gllcn@unife.it

Received: 2022-02-13 Accepted: 2022-04-20

DOI:10.18240/ijo.2022.09.25

Citation: Gallenga CE, Mura M, Gallenga PE. Suggestions on gut-eye cross-talk: about the chalazion. *Int J Ophthalmol* 2022;15(9):1566

Dear Editor,

We have studied with interest the publication “Effectiveness of oral probiotics supplementation in the treatment of adult small chalazion” by Filippelli *et al*^[1].

The conclusion of this work is exciting: the dialogue between gut and eye (brain) is now under the magnification lens and it deserves to continue the relationship studies, previously started by Filippelli *et al*^[2] also on children.

Chalazion is a lipogranuloma due to occlusion of the excretory duct of the Meibomian gland, which can also have an acute inflammatory phase, as for the external sty (inflammation of the Zeiss gland of the eyelash bulb^[3]). The traditional use of topical antibiotics (and/or, for a short time, systemic therapy) active on matrix metalloproteinases (MMPs; a class of tetracyclines such as doxycycline; caveat: age over 14y) is advised. The use of third generation aminoglycoside derived from *Streptomyces tenebrarius* and used against infections by Gram positive, negative and *Pseudomonas aeruginosa*, or quinolones, or third generation macrolides, does not seem recommended: this suggestion also derives from a *Consensus* on the need for reduce the consumption of new generation antibiotics for trivial pathologies in order to avoid the selection of resistant germs, as it has been discussed in the FEOPh Round Table in Paris^[4]. Hot moist post-medication compresses are combined to increase the absorption of the drug with vasodilation and thin the lipogranuloma with

petroleum jelly and emollient paraffins. Dietary reduction of whole milk, butter, chocolate, salami, cured meats, sausages, animal fats is prescribed, and the intake of fluid extracts of *Boldo*, *Cascara sagrada*, *Gentian*, and *Chinese Rhubarb* as cholagogues is recommended: this has always been the clinical protocol for small/medium sized chalazion. To add probiotics to restore the microbioma, will be our next step. The steroid in the ointment seems to favor the encystment of the granulomatous gland, it appears to rapidly reduce inflammation, but frequently without reopening the excretory duct of the meibomian gland, thus evolving into blepharoliths, calcareous conjunctival concretions.

Frezzotti and Guerra^[3], residing in the Emilia-Romagna/Tuscany regions, Italy, where an important component of diet is based on pork meat, summarized the pathogenesis of this epithelioid and lipophagic giant cell granuloma: “linked to lipid metabolism disorders in people with even mild dysfunctions of the digestive system and with severe eating habits (inveterate pig eaters). Basic therapy is dietary.”

The presentation of this study with rigorous methodology, beyond the statistical demonstration of the efficacy of a non-commercial innovative product, has the merit of opening the need for further investigations on the entero-eyelid mechanism of the chalazion forming, on the standardization of the evaluation method, still empirical, here effectively simplified in the criteria: size and resolution time with therapy, possibly including, in the future, also the degree of inflammation, to drive a guide-line for the real need of topical/systemic antibiotic therapy.

ACKNOWLEDGEMENTS

Conflicts of Interest: Gallenga CE, None; Mura M, None; Gallenga PE, None.

REFERENCES

- Filippelli M, dell'Omo R, Amoroso A, Paiano I, Pane M, Napolitano P, Campagna G, Bartollino S, Costagliola C. Effectiveness of oral probiotics supplementation in the treatment of adult small chalazion. *Int J Ophthalmol* 2022;15(1):40-44.
- Filippelli M, dell'Omo R, Amoroso A, Paiano I, Pane M, Napolitano P, Bartollino S, Costagliola C. Intestinal microbiome: a new target for chalaziosis treatment in children? *Eur J Pediatr* 2021;180(4):1293-1298.
- Frezzotti R, Guerra G. *Oftalmologia Essenziale*. CEA, Milano, Italy. 2006.
- Antibiotic prophylaxis related to intravitreal injection and cataract. FEOPh Symposium and Roundtable Discussion. Available on May 7, 2016. <https://feoph-sight.eu/feoph-symposium-sfo-2016/>