

CORRESPONDENCE

Re: Farm unprocessed milk contains high levels of transforming growth factor- β_1 that could protect from allergic disease development

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We read with interest the review by Braun-Fahrlander et al. [1] in the January issue of the journal on the role of farm milk consumption in the prevention of allergic diseases. Unprocessed milk contains different components such as bacteria, fatty acids, whey proteins and allergens that are involved in mechanisms of prevention [1]. We appreciated that among whey proteins authors considered TGF- β_1 as one of the potential protective factors, even though they concluded that there are no epidemiological data for TGF- β_1 -induced protection from bovine milk consumption. This is true even though epidemiological studies have shown that concentrations of TGF- β_1 in breast milk are inversely associated with the risk of wheezing during the first year of life [2, 3]. Therefore, we would like to emphasize the possible preventive role of TGF- β_1 even in raw milk. It has been shown that TGF- β_1 levels are significantly higher in the raw unpasteurized cow's milk and that home (boiling) or industrial (pasteurization or micro-filtration) manipulation can significantly decrease the content of this cytokine [4]. Furthermore, a series of cow's milk formulas had undetectable levels of TGF- β_1 [4]. Indeed, living in a farm environment and consuming

raw milk, is associated with significantly increased concentrations of this cytokine in human milk that persisted at high levels during lactation in comparison to reference mothers [5]. In animal models supplementation of a cow's milk-based formula enriched with TGF- β_1 at a level comparable with that of breast milk allowed Penttilä [6] to show inhibited elevations of total serum IgE and cow's milk-specific IgG1 antibodies when compared with the unsupplemented formula.

All this evidence suggests that consideration be given to the exposure to persisting high levels of TGF- β_1 in raw unpasteurized milk as a possible con-cause to explain protection for allergic disorders. Therefore, analyses of the unpasteurized milk compounds responsible for the protective effects have to consider not only the microbial compounds but also the cytokine patterns. Furthermore, because commercially available formulas almost do not contain TGF- β_1 , possibly due to manufacturing processes, an effort not to destroy or to add TGF- β_1 in the formulas at the similar high levels present in raw unpasteurized milk might be important for allergy primary prevention [4].

References

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We read Dr Peroni's comment to our review on the role of farm milk consumption in the prevention of allergic diseases with great interest. We are aware of the literature

he cited and agree with him to consider TGF- β as a constituent of the whey fraction of cow's milk potentially responsible for the allergy-preventive effect associated