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New treatment possibilities of laryngeal dystonia and related disorders.

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New aspects of the role of the signal processing from the larynx in mucosa in animals includes the vocal cords, as also discussed at the voice symposium in Madison July 2008 and in Stockholm 2008¹. We have made our analysis of 55 patients with dystonia. They were earlier elucidated neurologically in the hospital system in Denmark. Our analysis included immune system related deficiencies of the upper airway mucosa: screening of blood cells, thyroid function, D-vitamin insufficiency, allergy screening for pollen, dust and animal hair, milk, eggs, soya, wheat, nuts and fish, genetic tests for intolerance of gluten, lactose in milk, mannan binding globulin and antibodies for helicobacter bacteria (IGA or IGM and IGG). Thereafter we made a routine treatment of the upper airway disordered mucosa, that included an updated effective antihistamine (terfinadin 180mg, 2-3 tablets a day) and steroids locally (pulmicort, without lactose, standard treatment of 200micrograms) placed on the vocal cords, (3 turbo inhalations x 2 daily), for the facial dystonia also steroids in the nose (flixonase nose drops fluticazon 400microgram at least 2 times a day). The 55 patients with dystonia were divided: cervical 40F/13M, cervical + hoarseness 30F/11M, cervical + torticollis 13F/5M, facial 27F/9M, truncal 14F/7M, limbs 20F/6M, analysed and treated. A visual score was made of effect from 1-100 (%) and a division was made: no change 13, 1-25% 25, 26-50% none, 51-75% 3, 76-100% 11, not defined 3. The observation time was 3-6 months. 31F/ 13M had had botox locally earlier. 10% where satisfied with that treatment. The treatment effect was related to better all round social function. This prospective cohort study of symptoms before and after diagnosis and treatment of the upper airway immune system opens up new understanding of the role of the immune system in this kind of neurological disorders. Evidence based prospective studies are necessary in the future. A randomized controlled prospective study between botox and anti-inflammatory treatment of the upper airway could illustrate not only specific motor function skills of muscles but also an understanding of sensory aspects of dystonia.

¹ **Pedersen M** (2008). High speed films as a diagnostic tool for voice related dystonia and tremor, a prospective case-control study. AQL Stockholm.