The Neuropsychoimmunology of Keratoconjunctivitis Sicca and its Treatment with a Homeopathic Preparation

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Summary

The variable and erratic symptoms of keratoconjunctivitis sicca are primarily neuropathic in origin. Neuropsychoimmunology explains the close connection between ectodermal and mesenchymal factors and their mutual intensification. Information theory helps us differentiate and classify the diverse and sometimes paradoxical symptoms and develop a kinematic morphology of dry eye. As organ-specific substances, mucosal extracts send an encoded stimulus to the lacrimal glands. This raises the possibility of switching from tear-replacement therapy, which is purely symptomatic and palliative and must be continued indefinitely, to treatment of the actual cause—a great relief for the patients in question.

Introduction

The general view that the function of the lacrimal glands is simply to irrigate the surface of the conjunctiva and cornea is a reductionist way of looking at things and seems overly one-sided to us. In actual fact, the tear glands are an integral part of the autonomic central nervous system. Quite as a matter of course, we experience on a daily basis that people can shed tears of either joy or sorrow. Thus lacrimal secretion can be an expression of non-verbal behavior—that is, of emotional or mental stirrings. But the lacrimal glands can also be regulated by

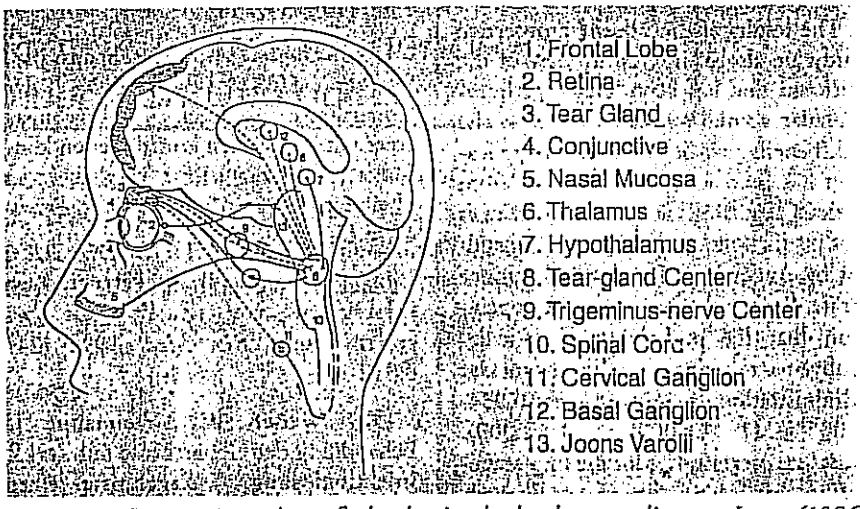

Figure A: Innervation plan of the lacrimal glands, according to Jones (1956) from L'oeil Sec *(1)*

frontal lobe innervation, which is subject to conscious control (Figure A).

In the phenomenology of so-called "dry eye" or sicca syndrome, we see a complex, erratic, and dynamic illness whose origins lie in faulty neuronal control (neuritis, neuropathy). The neuroparalytic genesis of hyposecretion was described by Duke-Elder.[2] Subjective complaints such as the feeling of having a foreign object in the eye and burning, chafing, or stabbing pain must be seen partly as reliable information and partly as misinformation. It is often difficult to correlate symptoms of this sort with the causes that provoke them, so conjunctivitis sicca may become a diagnosis of last resort. In neuropathies, however, a single cause typically has several effects that cannot always be directly traced to their origin. We are not dealing with causal connections but with signals that point out possible disturbances.

This explains why standard examination procedures such as the Schirmer or BUT (break-up time) test are necessarily unreliable. This observation is confirmed by other authors.[3] A quantitative standard imposed from outside is irrelevant to individual requirements. In the Schirmer test, errors are impossible to avoid, regardless of how carefully the test is performed.[4]

Definition of terms

The term "psychoneuroimmunology" originated with Ader in 1981.[5] This new beginning overcomes the conventional separation of neuro-ectodermal and connective/mesenchymal structures. The influence of psycho-neuronal impulses extends to both the immune system and the endocrine system, while stress research confirms the interrelationship between them.[6]

In our view, retaining the term "psychoneuroimmunology" serves no pur-

pose because it shifts the emphasis from an ophthalmological problematic to the psychotherapeutic plane. Since, in our opinion, we must turn to the neuromuscular apparatus to find the origin of sicca symptoms, we find the formulation "neuropsychoimmunology" more apt. Psychological problems appear only when neuropathic irritation is already manifest and has become chronic; therefore, they are not the triggering factor. Instead, the primary cause of sicca syndrome lies in an ocular/cervical symptom complex consisting of the following components:

- hypersensitivity in the atlanto-occipital joint, usually on both sides
- cochlealgia (tenderness in the area of the upper nasal orbital cavity)
- pain at the base of the superior oblique muscle when there is pressure on the upper rear quadrant of the eyeball and when looking down
- myalgia of the inferior rectus muscle when looking down
- subjective unpleasant sensations such as stabbing retrobulbar pain, asthenopia, burning in the eyes, a sensation of pressure (glaucoma is suspected); which are usually why the patient consults a physician

At first sight, these symptoms seem unrelated and erratic in their dynamics, arousing the suspicion that the episode has a psychosomatic cause. Explaining these diverse and variable symptoms is made possible by the theory of hyperactive "cell assemblies."[7] This is understood as a spontaneous hypersynchronous firing of neuron groups that migrate and therefore cannot be topologically pinned down. This is the kinetic morphology of sicca syndrome.

Methods

Our patients are individuals who were dissatisfied with conventional explanations of their symptoms or with conventional sicca therapy. The quality of physicians' arguments, in particular gives them grounds for dissatisfaction:

Normally, an illness has a beginning and an end. Symptomatic treatment of sicca syndrome with artificial tears has to be continued indefinitely. A diagnosis of "dry eye", which has become increasingly frequent in recent years, leads patients to suspect a mere fashionable diagnosis.

Many patients occasionally experience increased tearing in spite of their "dry eye"—that is, that their eyes are alternately dry and wet. This stands in crass contradiction to the official diagnosis. When patients with sicca syndrome experience symptoms during sleep, with their eyes shut, it is quite logical for them to doubt their physicians' explanations, because "dry, heated air," "environmental factors," or other outer influences cannot account for this phenomenon.

We know that in pathology, neuromuscular impulses and irritations tend to obey the rules of nonlinear dynamics. This observation was made in studying the sequence of events in headaches.[8] Neurocortical self-organization works according to adaptive information structures that vary from time to time and whose semantic, syntactic, and pragmatic elements make up a meaningful behavior. A piece of information contains not only quantitatively measurable elements but also qualitative attributes such as meaningful/meaningless or true/false.[9] A sensory stimulus can incite imagination or fantasy.

From this aspect, a patient's subjective symptoms can be considered either reliable information or misinformation; in either case, they must be decoded by the physician. This means that if the patient complains of sensations of burning, stabbing, having a grain of sand in the eye, or the like, it is the physician's job to distinguish whether this is a matter of information or misinformation. Subjective sensations need not necessarily correspond to objective findings. For example, we may observe that Schirmer test results continue to point to reduced lacrimal secretion even after subjective improvement has been noted, while Schirmer tests carried out on symptom-free patients may also indicate minimal production of tears.

Patient demographics

Our insights are based on the systematic examination of patients with typical sicca symptoms. Examinations took place in an ophthalmological practice over a period of more than a year. The patients selected were both motivated and able to make differentiated and reliable statements about their course of treatment.

In total, 47 cases (32 female, 15 male) were evaluated and observed for approximately one year. Ages ranged from 19 to 80 years, with a concentration in the age range of 35-45.

It is interesting to note that their symptoms had persisted for many years. While the majority of patients had experienced symptoms for a period of 5 to 10 years, 9 patients had had symptoms for 10 years, 3 patients for 12 years, and 3 for 15; an additional 3 patients had had symptoms for a period of up to 30 years. That is, 34% of these patients had been suffering from sicca syndrome for between 10 and 20 years.

Twenty-eight of the 47 patients seemed to have mental health problems. These were clearly neurasthenic, stressed, and sometimes decompensated personalities prone to headaches and migraine. The ocular/cervical syndrome described above was documented in 42 out of 47 patients, or nearly 90%. Anamnesis revealed (and dermatological tests confirmed) allergies in 23 patients, who had also received cortisone on a regular basis.

Concomitant diseases of mesenchymal origin, such as rheumatism, arthrotic spinal defects, hormonal disorders, cardiac and circulatory diseases, and fleeting visual-field disturbances of vascular origin were noted in 14 patients, or approximately 30%. These disorders are often closely associated with Sjögren's syndrome.[10] The proportion of neuronal factors (90% ocular/cervical syndrome) to mesenchymal problems (30%) speaks clearly in favor of the predominance of neuropathic causes in sicca syndrome (Figure B).

The observation period lasted from

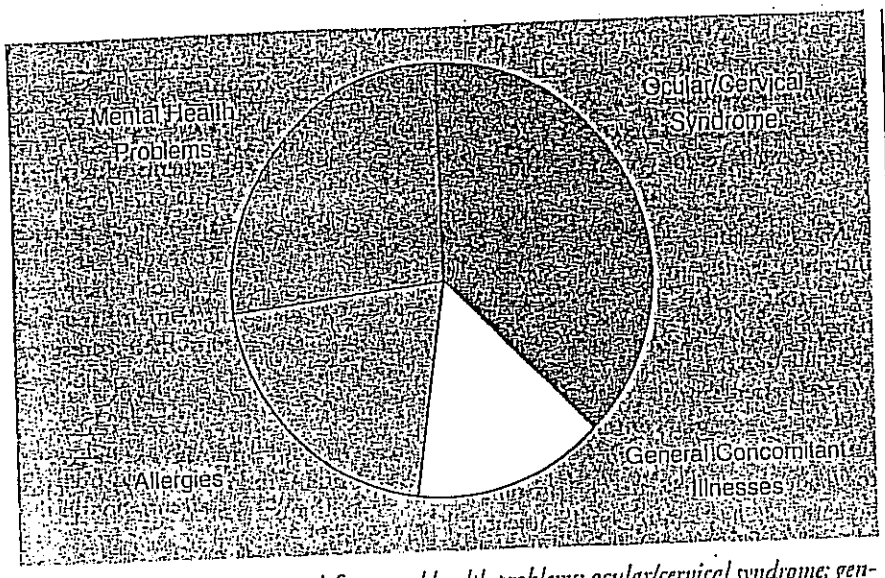

Figure B, clockwise from upper left: mental health problems; ocular/cervical syndrome; general concomitant diseases; allergy

March 1995 to April 1996. Monitoring examinations took place at intervals of two to four weeks, depending on how far away the patients lived.

After the usual ophthalmological examination and after testing patient tolerance of Mucosa compositum®, the preparation (ampules) was prescribed as follows: one eyedropper-full twice daily in each eye, decreasing to once daily after symptoms improve and then phasing out gradually at a rate determined by the patient. Since the preparation does not contain alcohol, there is no problem in using the sterile solution in the eyes. The patients were informed that the medication could be kept about one week under refrigeration and that the solution was not to be used once it became cloudy.[11]

Results

In 9 cases, neural therapy and acupuncture of the ear and skull were also implemented. Especially in patients with headaches, this additional treatment proved very compatible with the Mucosa compositum® therapy. In individual resistant cases (4 patients) neurotropic remedies such as Keltican and vitamin B complex were prescribed in addition.

Since the Schirmer Test is unreliable as an objective standard, the patients' subjective statements about tolerability, number of applications, and alleviation of symptoms were taken into consideration. An additional important criterion for female patients was the fact that after several weeks of treatment with Mucosa compositum®, they were once again able to wear eye makeup without provoking symptoms.

Tolerance was good in 43 out of 47 patients. Only 4 patients were dissatisfied because the medication took too long to take effect.

Discussion

Although the usual tear-replacement therapy brings quick relief, the relief is very short-lived, and application must be continued several times a day, indefinitely, if the patients are to remain relatively free of symptoms. For many, a "lifelong" therapy of this sort is frustrating. In contrast, the patients treated with Mucosa compositum® found that although their medication was initially slow to take effect, improvement continued over time, and eventually they were even able to stop using the preparation.

Among other components, Mucosa compositum® consists of suis-mucosal extracts from various parts of the body combined with dilutions (8X -10X) of pancreas and belladonna, which stimulate the cornea and conjunctiva in specific ways that promote the secretory function, stabilizing it rather than replacing it. The stimuli sent by these substances are a kind of code that helps initiate neuronal stimulation, both locally and centrally. Rather than being an additive stringing together of concepts, neuropsychoimmunology is an attempted description of dynamic networks. The goals of this description range from providing means of measuring functionality to discovering structural connections.

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