

## NEW CONCEPTS OF BLEPHAROSPASM TREATMENT AND REHABILITATION

*Our Rare Diseases Library expert and director of Medical Center "RareDis" – Dr. Radostina Simeonova, PhD gives an overview of the rare disease blepharospasm.*

### Definition

Blepharospasm is a localised form of muscular dystonia, characterized by involuntary clonic and tonic contractions of periocular muscles, causing complete or partial closure of the eyelids for several seconds to several minutes. The first symptoms are usually between 40 and 70 years of age. Women are affected more frequently than men. Male to female ratio is about 2:3.

### Etiology

The exact cause of primary blepharospasm is unclear. It is most likely due to abnormal function of the basilar nuclei in the CNS, which play an important role in movement coordination – superior colliculus and substantia nigra of reticular formation. Blepharospasm may be also due to another underlying disease. In this case it is called secondary blepharospasm or reflexive spasm.

### Genetic counseling

In most cases, there is no genetic disorder. However, familial forms have been recorded, especially in Meige syndrome. Family history is reported in 20% of cases.

### Clinics

The manifestation of symptoms is usually gradual over several weeks or months. At the beginning it can be expressed as frequent blinking that later develops in classic muscle contractions. Symptoms are bilateral – both eyes are affected. Cramps are more defined when listening, walking, gazing, looking up. Conversely, they can significantly weaken while speaking, singing, looking down, coughing, and concentrating. Spasms are less intense in the morning and well expressed during the day.

### Diagnosis

Diagnosis is based on typical clinical signs. The exact clinical form should be determined. It is important to distinguish primary from secondary blepharospasm, because their treatment is different.

### Established therapy

Treatment of blepharospasm is symptomatic, unless it is secondary or due to another underlying disease (in this case, treatment is aimed at the primary disorder, which causes blepharospasm). Treatment could be conservative medication (it can be taken orally or by local injection), nonpharmacological, complementary and surgical techniques.

#### A. Conservative medication:

##### 1. Medication, injected locally:

- Injections of Botulinum toxin type A. It ensures a stable result for 3-6 months. In case of neutralising the action of toxin A by antibodies, it is possible to provide alternative treatment with Botulinum toxin B.
- Alcoholic injections. The most common method until 1970.

##### 2. Medication administered orally:

- Benzodiazepines
- Myorelaxants
- Anticholinergics

##### 3. Alternative treatment:

- Psychotherapy, relaxation techniques (autogenic training), yoga, meditation, Feldenkrais method, hypnosis, controlled exercise such as Pilates and soft tissue techniques, acupuncture to relieve pain and spasms.



#### 4. Physical therapy

The disorder primarily affects motor and facial muscles. That's why the applied physical methods are mostly symptomatic and have cosmetic effect. Teaching the patient to deal with muscle contractions and to use replacement movements and techniques of control is the task of the medical rehabilitation. Combinations that target all the patient complaints are often used and frequent rehabilitation courses should be sought – at least one in two months. Emphasis is placed on reflex methods in the neck, electrical and light treatment, kinesitherapy. The application of specialised kinesitherapy techniques significantly improves the patient's condition. Laser puncture is also one of the recommended approaches. Underwater gymnastics and underwater massage methods demonstrate a proven positive effect. It is very difficult to patients with blepharospasm to perform professional tasks due to limited eye sight and psychological barriers, posed by the aesthetic problem. Different variants of occupational therapy have double objective – a therapeutic and a re-training ones. Speech therapy, as well as consultations with psychologist may be also conducted.

B. Surgical treatment – it is recommended when the efficacy of botulinum toxin starts decreasing over time (due to the formation of anti-botulinum toxin antibodies) or it is ineffective from the very beginning (due to the absence of botulinum toxin receptors). Various surgical techniques are used.

#### Prognosis

Primary blepharospasm is not a life-threatening condition, but its progressive course strongly influences the patients in psychological and social aspects. The condition can be improved with prolonged conservative treatment and/or surgery.

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