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Review

# Eye Myasthenia in a Young Togolese: About a Case and Literature Review

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## ABSTRACT

The authors report a case of ocular myasthenia revealed by a myasthenic crisis after antimalarial treatment with quinine in a 14-year-old girl. The patient's exploration by a chest scan had revealed a thymoma and the test of acetylcholine receptor antibodies was strongly positive. Finally, electromyography revealed a decrement greater than 10% to repetitive nerve stimulation. The interest of this issue lies in the rarity of this observation in Black Africa, where it is often confused with malaria.

***Keywords***: *Myasthenia; Thymoma; Malaria; Black Africa.*

## INTRODUCTION

Myasthenia Gravis is an autoimmune disease characterized by the production of antibodies against acetylcholine receptors in the neuromuscular junction.[1] It is characterized by weakness and skeletal muscle fatigue to exertion which improve with rest.[1] Eye myasthenia is the most common form of the disease in children with frequencies ranging from 71 to 93%.[2] However, myasthenia, especially in its eye form, remains relatively unknown in Black Africa, where there are many infectious or parasitic conditions, some of which may mimic myasthenia gravis.[3] We report an ocular form of myasthenia gravis discovered through quinine as part of an antimalarial treatment.

## CLINICAL CASE

14-year-old girl child, in 4th class,2nd of four children (Photo 1), all in apparent good health, given birth vaginally and resuscitated at birth for fetal suffering. There was no known notion of a drug allergy. The patient lives with her parents in a village about 360 km from the specialized service. She comes from a family with precarious socio-economic conditions. There was a notion of taking decoction (traditherapy) for worsening visual disturbances at the end of the day, generalized weakness and tonic seizures. She had had a flu-like syndrome with fever, polyarthralgia and generalized weakness for three weeks prior to her admission to the neurology department. The parents had taken her to a peripheral care unit (PCU) where she had received quinine-based antimalarial treatment in the face of thick gout positivity (GE). At the end of this treatment, the patient had presented a binocular diplopia with ptosis, generalized weakness and dyspnea. It was in this context that the patient was brought to neurologic resuscitation for treatment.

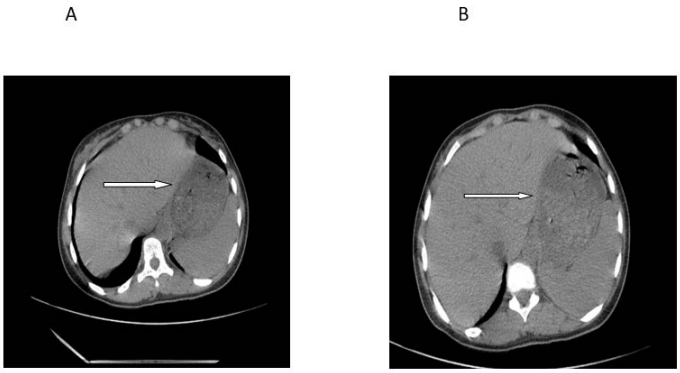
**Photo 1**

Clinical examination in neurology had noted a weight of 36 kgs for a size of 1.5 meters, a normal consciousness, an absence of language disorders, a bilateral ptosis with a more marked binocular diplopia at the end of the day, an absence of sensory deficit, a normal nausea reflex, a class I dyspnea, repetitive movements of difficult achievement. The prostigmine test was positive.

On ancillary tests, the amount of acetylcholine receptor antibodies was greater than 100.0 nmol/l (Normal (N)< 0.2); the electromyogram (EMG) had revealed the presence of decrements greater than 10% on repetitive nerve stimulation suggesting autoimmune myasthenia gravis (Figure 1); the dosage of the anti-MuSK antibody had not been done due to financial difficulties; the chest scan had found a tissue process of the thymic lodge with fairly regular contours that could be related to a thymoma (Figures 2A and 2B).

**Figure 1.** EMG showed decrements greater than 10% at repetitive stimulation

**Figure** 2 (A, B)**.** The chest scan revealed a thymoma.




The diagnosis of autoimmune myasthenia gravis was retained and the patient was put on Pyridostigmine bromide (Mestinon). Clinical evolution was favorable with a spectacular regression of ptosis and fatigue to stress as well as dyspnea. The list of contraindicated drugs was given to the family.

## DISCUSSION

Ocular myasthenia gravis, the most common form of myasthenia gravis of the young subject[1] whose diagnosis is evoked on the basis of clinical and paraclinical arguments[2] should be discussed early in order to avoid complications that would fall within the Middle Ages. The presence of ptosis and/or rocking diplopia although suggestive of the disease,[2] may be overlooked especially when combined with a fever, a polyarthralgia with a thick drop positive to plasmodium falciparum. This is especially true in Africa where hygienic levels are low and some parasitic and/or viral conditions, including malaria and HIV, can mimic these symptoms and mislead the diagnosis. It is more easily understandable that the diagnosis was so late when one takes into account that in Black Africa, the need for control of health spending since the 1980s has led, due to the economic crisis, to the disengagement of States in the financing of health systems, resulting in the complete management of health care by the patient and/or his family.[4] In fact, our patient has long had only traditherapy as management. Eye myasthenia gravis, a manifestation of the disease in children, with an annual incidence of 1.13/100000[5] can progress to generalized myasthenia gravis with an average conversion time of 13 months and extremes of 2 and 180 months.[5] However, the association of ocular myasthenia gravis with a thymoma is not uncommon as it is found in 15-20% of myasthenic patients.[6] If the diagnosis of autoimmune myasthenia gravis requires the systematic search for a thymoma, the reciprocal is not absolute. Indeed, authentic thymomas can be discovered without autoimmune diseases.[6] Autoimmune diseases can then be discovered before, at the time or after thymectomy.[6] In any case, thymectomy greatly improves the prognosis of myasthenia[7] but remains an unattainable option for our patient because of its cost. Moreover, this chronic lack of management, in our patient, for financial reasons among others, inevitably led to the myasthenic crisis accelerated by the use of quinine. The myasthenic crisis is a diagnostic and therapeutic emergency.[8] However, when a myasthenic subject has a parasitic condition such as malaria, artesunate appears to be a better treatment option compared to quinine for myasthenic subjects because they have a better toxicity profile than quinine.[9]

## CONFLICTS OF INTEREST

None.

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