



Neurological Complications of Typhoid Fever: Case of Guillain-Barre' Syndrome about an Observation in Dakar, Senegal

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Abstract: Guillain-Barre syndrome is a rare complication of typhoid fever and only a few such cases have been reported in the pediatric age group. Authors report here the first documented case of Guillain-Barre syndrome associated with typhoid fever in Senegal. It was an old boy of 10 years without a specific personal history with psychomotor development and a status update. No family history had been reported. He was hospitalized for motor deficit of 4 members of progressive and backward installation on approximately 1 week. The beginning of the symptomatology was marked by episodes of nausea, sometimes late post-prandial vomiting and diarrhea, abdominal pain in a feverish context. Neurological examination was objectified a peripheral neurogenic syndrome.

There were no abnormalities of the cranial nerves or sensory impairments evident. The rest of the clinical examination was normal. The Electroneuromyography had objectified maximum diffuse axonal degeneration in the lower limbs with discrete lesions of demyelination in places. Blood biology showed a mild leukocytosis predominant neutrophil. Lumbar puncture with cerebrospinal fluid analysis showed an Albuminocytological dissociation moderate with a cellularity to 12 items per mm³ and protein levels to 1.25 g per liter. In the course of a normal comprehensive etiological account, the diagnosis of polyradiculoneuritis acute (Guillain-Barre syndrome) on the highlighting of Salmonella Typhi by serology Widal and Felix, but also of the culture which had highlighted the germ Salmonella Typhi. The stool culture and the gastric biopsy had not been carried out. Evolution after 3 weeks had been marked by a slight improvement in the clinical signs of a discrete regression of the engine following a made essentially supported deficit of ceftriaxone (80 mg/kg/day for 7 days), physiotherapy and symptomatic treatment. Typhoid fever is a common infection in the tropics but its complications on the peripheral system are very rare. A multidisciplinary collaboration is necessary for the treatment of these conditions in the tropics in general and in particular typhoid fever.

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1. Introduction:

Typhoid fever is a systemic disease caused by Salmonella enterica serovar Typhi, a Gram-negative bacterium. Humans are the only host, and transmission most commonly occurs through ingestion of water or food contaminated by feces from an acutely ill or convalescent patient or an asymptomatic carrier (Kabwama et al., 2017). Guillain-Barre' syndrome is a rare complication of typhoid fever (Kapoor et al., 2014). Authors report the first documented case of Guillain-Barre syndrome associated with typhoid fever in Senegal (West Africa).

2. Observation:

It was an old boy of 10 years without a specific personal history with psychomotor development and a status update. No family history had been reported. He was

hospitalized for motor deficit of 4 members of progressive and backward installation on approximately 1 week. The beginning of the symptomatology was marked by episodes of nausea, sometimes late post-prandial vomiting and diarrhea, abdominal pain in a feverish context. Neurological examination was objectified a peripheral neurogenic syndrome consisting of a motor deficit proximal and distal of the 4 members at 0/5 to the lower limbs and 1/5 to the upper limbs. Osteo-tendinous reflexes abolished the 4 members. There were no abnormalities of the cranial nerves or sensory impairments evident. The rest of the clinical examination was normal.

The Electroneuromyogram had objectified maximum diffuse axonal degeneration in the lower limbs with discrete lesions of demyelination in places. Blood biology showed a mild leukocytosis predominant



neutrophil. Lumbar puncture with cerebrospinal fluid analysis showed an albuminocytological dissociation moderate with a cellularity to 12 items per mm³ and protein levels to 1.25 g per liter. In the course of a normal comprehensive etiological account, the diagnosis of polyradiculoneuritis acute (Guillain-Barre syndrome). on the highlighting of Salmonella Typhi by serology Widal and Felix but also of the culture which had highlighted the germ Salmonella Typhi. The stool culture and the gastric biopsy had not been carried out.

The extension assessment consisting of the x-ray of the chest, ECG, and urine test were normal. Evolution after 3 weeks had been marked by a slight improvement in the clinical signs of a discrete regression of the engine following a made essentially supported deficit of ceftriaxone (7 days), physiotherapy and symptomatic treatment.

3. Discussion:

Guillain-Barre' syndrome is a rare complication of typhoid fever and only a few such cases have been reported in the pediatric age group (Berger et al., 1986; Datta et al., 2004; Mehndiratta et al., 2012). A few cases have been reports in Island, India and some areas (May & Senitiri, 2010; Mehndiratta et al., 2012). Besides the disease is rare before the age of 15 years and after 60 years (Kabwama et al., 2017). The patient in the current study is a 10-year-old boy.

Guillain-Barre' syndrome is an immune-mediated polyneuropathy that has often been associated with a variety of infectious agents such as bacteria, and virus (Hartung et al., 1995a; Hartung et al., 1995b). The most common neurological complication of typhoid fever is encephalopathy (Sharma & Gathwala, 1993). The exact pathogenesis of these complications is not known. It has been postulated that toxemia, along with metabolic disturbances and non-specific cerebral changes such as edema and hemorrhage, may be responsible for encephalopathy (Cohen et al., 1987). The complication of the patient concerns the peripheral nervous system. However, these alleged assumptions are possible to the peripheral nervous system.

The typhoid endotoxin may affect any part of the central nervous system and may be the possible mechanism behind the wide spectrum of neurological complications of typhoid fever (Ghosh & Senapati, 1995). Guillain Barre'syndrome of patient was infectious immediately after infection period without another etiology found introductions explain disease. This installation mode has been reported by Kapil et al in the 8-month-old male child (Kapoor et al., 2014). This allows better to incriminate the causative agent.

Ceftriaxone is more effective in children with typhoid fever in terms of the greater proportion of children becoming afebrile in 96 hours (Naveed & Ahmed, 2016).

Patient has received of ceftriaxone, physiotherapy and symptomatic treatment. The evolution after 3 weeks was favorable with a regression of the clinical signs and a slight reduction of the motor deficit.

4. Conclusion:

Typhoid fever is a common infection in the tropics but its complications on the peripheral system are very rare. The cases of Guillain barre due to Salmonella Typhi diagnosed in a Neurology Department shows that this disease seems to be under diagnosed in General medicine. A multidisciplinary collaboration is necessary for the treatment of the neurological complications of the tropical diseases in general and typhoid fever particularly.

Conflicts of Interest:

Authors declared no conflicts of interest.

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