Bell’s Palsy and Cyclosporiasis: Causal or Coincidence?

The etiology of Bell’s palsy is unknown but is presumed to involve swelling of the seventh (facial) nerve due to immune or viral disease, resulting in ischemia and compression of the nerve at the point where it leaves the bony tissue. Biliary disease, Guillain-Barre syndrome, Reiter syndrome, acalculus cholecystitis, pulmonary infection and low hemoglobin concentration in the absence of efficient immune system have been reported as an extraintestinal complication of Cyclospora infection. We describe Bell’s palsy in a chronic cyclosporiasis patient which is a rare occurrence.

Key words: Bell’s palsy, Cyclosporiasis

Bell’s Palsy and Cyclosporiasis

Bell’s palsy, an idiopathic facial paralysis, is a common disease that causes important functional, aesthetic, and psychosocial disturbances in the patients. Bell’s palsy is characterized by the mouth sags, dribbling, taste impairment, and watery eye. The etiology of VIIth nerve palsy may be due to brainstem tumor, stroke, polio, cerebello-pontine angle lesions (acoustic neuroma, meningitis), otitis media, Ramsay Hunt Syndrome (herpes-zoster oticus), cholesteatoma, parotid tumors, trauma, sarcoid, Guillain-Barre, leprosy, Lyme disease etc. But Bell’s palsy is idiopathic in nature. Cyclospora cayetanensis is a coccidian parasite that causes acute and chronic diarrhea in immunocompetent and immunocompromised patients. The main purpose of this paper is to report the Bell’s palsy syndrome in a Cyclospora infected chronic diarrheal patient in this coccidian endemic area, Nepal.

Case Report

A 27 year-old man had gastrointestinal illness five days after attending a feast at a friend’s house. His symptoms were vomiting, diarrhea, and fever. He was evaluated clinically and was sent for routine investigations. His white cell counts were normal and routine stool microscopy and Widal test were negative. The patient was started on metronidazole 400 mg three times a day for 5 days along with some vitamins and rehydration solution. Two weeks later he started to have watery stools. His stool examination was done by direct wet mount at 2.5% potassium dichromate solution and formol-ether concentration methods. These tests gave the positive detection of Cyclospora parasites in the range of 1-3 oocysts per 400X. Bacteriologic tests of stool were negative. However, there was no detection of oocysts on the following two consecutive days, despite medications, he continued to have intermittent diarrhea. Three months later, when he woke up, he found that his left face was deviating towards right side. Besides facial asymmetry, other symptoms were eye exposure due to lack of eyelid closure, folding out (ectropion) of the lower eyelid, inability to smile properly. He couldn’t wrinkle his forehead, whistle or blow out his cheek. A diagnosis of Bell’s Palsy was made.
The patient was started on prednisolone and physiotherapy of the facial muscles. Over the ensuing two months he had mild improvement on his facial palsy but continued to have gastrointestinal symptoms. Repeat examination of his stool by formol-ether concentration and acid-fast staining was performed. *Cyclospora* in the range of 4-7 oocysts per 400X field were detected.

The patient continued physiotherapy and oral cotrimoxazole. Gradually he started to improve and in four months from the start of his symptoms, his facial palsy had improved completely. Stool examination again performed at this time was negative for *Cyclospora*.

**Discussion**

Bell’s palsy, an idiopathic facial paralysis, is a common disease that causes important functional, aesthetic, and psychosocial disturbances in the patients. The etiology is unknown but is presumed to involve swelling of the seventh (facial) nerve due to immune or viral disease, resulting in ischemia and compression of the nerve at the point where it leaves the petrous bone. It is characterized by weakness of the entire half of the face. The onset is usually abrupt and may be associated with much pain. The patient cannot control salivation or lacrimation, and in severe cases cannot close the eye on the affected side. Facial expression is distorted. Fifty-percent of patients will also experience sensory loss of the face, neck or tongue, and 90% will experience hyperacusis which is painful sensitivity to sound. Comonly prescribed medicine for this condition is prednisolone, though this is of unproven value.

*Cyclospora cayetanensis* is a coccidian protozoan parasite which has now been identified worldwide in the feces of both immunocompetent and immunocompromised patients with diarrhea. It causes relapsing, non-bloody, watery and self limiting diarrhea with duration of 4 weeks to 18 months. The oocysts have been detected in the watery and self limiting diarrhea with duration of 4 weeks in immunocompetent hosts. 4,5,6,7,8,9 The oocysts have been detected in the diarrheal patients to cause Guillain-Barre syndrome.

The patient continued physiotherapy and oral cotrimoxazole. Gradually he started to improve and in the four months he had mild improvement on his facial palsy but continued to have gastrointestinal symptoms. Repeat examination of his stool by formol-ether concentration and acid-fast staining was performed. *Cyclospora* in the range of 4-7 oocysts per 400X field were detected.

The patient continued physiotherapy and oral cotrimoxazole. Gradually he started to improve and in four months from the start of his symptoms, his facial palsy had improved completely. Stool examination again performed at this time was negative for *Cyclospora*.

**Discussion**

Bell’s palsy, an idiopathic facial paralysis, is a common disease that causes important functional, aesthetic, and psychosocial disturbances in the patients. The etiology is unknown but is presumed to involve swelling of the seventh (facial) nerve due to immune or viral disease, resulting in ischemia and compression of the nerve at the point where it leaves the petrous bone. It is characterized by weakness of the entire half of the face. The onset is usually abrupt and may be associated with much pain. The patient cannot control salivation or lacrimation, and in severe cases cannot close the eye on the affected side. Facial expression is distorted. Fifty-percent of patients will also experience sensory loss of the face, neck or tongue, and 90% will experience hyperacusis which is painful sensitivity to sound. Comonly prescribed medicine for this condition is prednisolone, though this is of unproven value.

*Cyclospora cayetanensis* is a coccidian protozoan parasite which has now been identified worldwide in the feces of both immunocompetent and immunocompromised patients with diarrhea. It causes relapsing, non-bloody, watery and self limiting diarrhea with duration of 4 weeks to 18 months. The oocysts have been detected in the watery and self limiting diarrhea with duration of 4 weeks in immunocompetent hosts. 4,5,6,7,8,9 The oocysts have been detected in the diarrheal patients to cause Guillain-Barre syndrome.

**References**

5. Ghimire TR: Cyclosporiasis in HIV and Non-HIV patients: A study in Kanti Children’s Hospital, Maharajgunj and Sukra Raj Tropical and Infectious Disease Hospital, Teku, Kathmandu, Nepal. Dissertation: Master’s Degree in Zoology, Central Department of Zoology, Tribhuvan University, Kirtipur, Kathmandu, Nepal, 2004