Neuromuscular Problems in a Young Child Case Study

A missionary couple, living in West Africa, bring their 4-year old son to the office of their physician on the second day of a visit home to Minnesota. The boy had a mild episode of diarrhea about seven days earlier and would not eat. He seemed to recover, but the mother noticed that the boy was having trouble walking the previous night and had seemed to have trouble dressing himself and walking that day.

On examination, the patient had no significant fever (98.9) and normal bowel sounds. His chest, ears and eyes were clear. He had no rebound tenderness in the abdomen. The physician noted that the child had poor muscular reflexes in his arms and legs. The child also was a bit lethargic and seemed confused.

The family lives in an isolated village in Africa. The mother opposes vaccinations on personal grounds, so the child has only had the initial series of DPT shots and no other typical vaccines. The village where they live has many problems with parasites and insect borne fevers (including Dengue).

Urine, stool and blood samples were collected for analysis.

1. What is the most likely diagnosis?
2. What samples and tests would help you confirm your diagnosis?
3. Would receiving the childhood vaccine series have prevented this problem?