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Severe Metabolic Acidosis in Nalidixic Acid Overdosage

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Nalidixic Acid is a commonly used antibiotic for urinary tract infections and also acute bacterial diarrhea. Overdose leading to severe metabolic acidosis has not been reported from India. We report one such case.

Case Report

A four-month-old infant presented with a history of altered sensorium of 3 hours duration. Four days earlier, she had loose stools for which she was started on Nalidixic Acid 110 mg/kg/day for four days and lactobacillus tablets for one day. The day prior to admission, the mother noticed building of the anterior fontanelle. The next day, child

became lethargic and rapidly progressed to coma. She also had one episode of generalized tonic clonic seizures. She was treated at a Nursing Home with intrauterine diazepam and calcium gluconate and then referred to our institution.

On examination, the anterior fontanelle was bulging, there was minimal response to painful stimulus. Respiration was rapid and systemic examination was non-contributory. The investigations (*Table I*) revealed a high anion gap metabolic acidosis (38.5). Correction of acidosis was done with intravenous sodium bicarbonate following which the child dramatically regained sensorium.

The child was hypotonic for the next two

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Table 1—Summary of Arterial Blood Gases

Parameter	Before treatment	After treatment
pH	7.097	7.345
PO ₂	204.0	172.0
PCO ₂	8.2	11.2
HCO ₃	2.4	6.0

days and recovered fully with no neurological sequelae. She was discharged on the fifth day, now comes for routine immunization and is doing well.

Discussion

Nalidixic Acid is a commonly used quinolone. Severe metabolic acidosis is a rare complication of overdose. The youngest child with this complication to be reported was a seventeen-month-old baby(1). Nalidixic Acid causes metabolic acidosis by affecting the lactic acid metabolism(2). *Lactobacillus* also causes an increase in serum lactic acid levels. *Lactobacillus* induced metabolic acidosis has been reported, in a young adult(3). There was no evidence of hemolysis, though Nalidixic acid is known to

produce hemolytic anemia. Pseudotumor cerebri is a well known complication of Nalidixic Acid therapy.

When a child presents with a history of Nalidixic Acid intake and rapid breathing, Nalidixic Acid induced metabolic acidosis should be thought of. The acidosis, if corrected promptly, leads to complete recovery with no sequelae. Also, a combination of Nalidixic Acid and lactobaccillus is better avoided.

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Marked Atypical Lymphocytosis and Skin Rash Following Sulfamethoxazole

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Heterophil-antibody negative infectious mononucleosis like illnesses that include atypical lymphocytes on a blood smear have been widely documented in literature(1-4).

Several infectious agents besides Epstein-Barr virus, viz., cytomegalovirus, rubella,

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