LETTER TO EDITOR (VIEWERS CHOICE)

MISDIAGNOSIS OF DIABETIC KETOACIDOSIS AS CEREBRAL MALARIA IN A GHANAIAN CHILD – NEED FOR AWARENESS AMONG DOCTORS

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Misdiagnosis of diabetic ketoacidosis (DKA) can be lethal. DKA is common among children with type 1 diabetes mellitus (T1D) in Africa. This is due to poor awareness and lack of public sector support for children with diabetes mellitus in Africa. (1) DKA is a medical emergency that requires prompt diagnosis, treatment and monitoring for multiple metabolic abnormalities and vigilance for complications. It is characterized biochemically by a triad of hyperglycemia, ketonemia and/or ketonuria and acidemia and clinically by polyuria, polydipsia, vomiting, abdominal pain, deep sighing respiration (Kussmaul breathing), lethargy, loss of consciousness and coma. (2,3) These clinical features are also found in acute infections such as cerebral malaria, meningitis, pneumonia, gastroenteritis and typhoid fever. (4) Therefore, misdiagnosis of DKA as cerebral malaria is possible. Misdiagnoses as infections have been reported at all levels of health care in Africa. (1,5) We present a 12 year old Ghanaian girl who presented at a district hospital with poor feeding, vomiting, abdominal pain and lethargy. Rapid malaria test was negative but the doctor on duty suspected cerebral malaria and prescribed intravenous (IV) artesunate and IV dextrose. On review by a paediatrician she was found to be comatose, thus DKA was suspected. Her random blood sugar (RBS) was 32.5 mmol/L and so she was immediately referred to a teaching hospital. Retrospective questioning, at the teaching hospital, revealed that she had polyuria, polydipsia and weight loss but no previous diagnosis of diabetes mellitus. On presentation at teaching hospital, she was dehydrated, hypothermic (body temperature of 36.2oC), tachycardic (heart rate 130/min), comatose with Kussmaul respiration and blood pressure (BP) was 100/60 mm of Hg. RBS was 29.7 mmol/L and urine ketones were 3+. Cerebrospinal fluid (CSF) analysis was normal and blood smear for malaria parasites and blood culture were negative. She was managed for DKA. She recovered after six days and was discharged with advice for regular follow up.

Our patient was misdiagnosed as cerebral malaria based on presenting features of poor feeding, vomiting, abdominal pains, and lethargy. (4) These features are also common to DKA. (2,3) Part of the management of severe infections such as cerebral malaria includes dextrose administration. A patient with DKA erroneously given dextrose would develop cerebral edema and if not recognized and appropriately managed could even die. Therefore, the authors warrant that any child or adolescent with acute disease that needs admission should have a blood glucose tested to rule out diabetes mellitus.

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