Deadly Lactic Acidosis

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Citation

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Abstract

Metformin is a freguent used a oral antidiabetic ajan. A 61 years-old female patient with complaints of nausea, abdominal pain, lethargie, and drug ingestion was admitted to emergency department. He ingested 50-60 of 850 mg metformin tablets (glucophage). Bicarbonate was given by intravenous push at a dose of 1 mEq/kg body weight.. Haemofiltration was plan for lactic acidosis.

The biguanides include phenformin and metformin, both of which are derivatives ofguanidine. Metformin is a freguent used a oral antidiabetic ajan. Metformin is also associated with lactic acidosis that is fatal in nearly 50 percent of the cases ([1]).

CASE

A 61 years-old female patient with complaints of nausea, abdominal pain, lethargie, and drug ingestion was admitted to emergency department. He ingested 50-60 of 850 mg metformin tablets (glucophage) for suicidal attempt and after 2 hours of ingestion he first sought for medical assistance in the county hospital; then the patient was transferred to our hospital. He had type 2 diabetes mellitus for 5years and had been using metformin and glipizide. On physical examination his general condition was fair, blood pressure 100/75 mmHg, pulse rate 100 bpm, and lethargic. An intravenous line was inserted for isotonic infusion. Blood was drawn for laboratory assessments. Since 3 hours had passed after ingestion, gastric lavage was not done. 1 gram/ kilogram active charcoal was administered via nasogastric tube. Laboratory tests yielded a leukocyte count of 7000/mm^3, haemoglobin 14 g/dL, haematocrit 37%, platelet count of 350000/mm^3, urea 30 mg/dL, creatinine 1.3 mg/dL, blood glucose 325 mg/dL, ALT 72 IU/L, AST 42 IU/L, LDH 350 IU/L, lactate over 181 mg/dL, pH 7.09, pO2 65 mmHg, pCO_2 33 mmHg, HCO_3 18 mEq/L, oxygen saturation was 74%. Sinus rhythm was detected on EKG. Bicarbonate was given by intravenous push at a dose of 1 mEq/kg. Haemofiltration was plan for lactic acidosis. During the follow was developed cardiapulmoner arrest occured and cardiopulmonary resuscitation (CPR) was performed. Since she did not respond to 30 minutes of CPR and eventually she was accepted exitus.

DISCUSSION

Metformin is a biguanide oral antidiabetic medication. Biguanides lower blood glucose levels by reducing intestinal glucose absorption and gluconeogenesis, and by increasing peripheral glucose uptake. Besides they can lead to lactic acidosis, hypothermia, and hypotension ([1, 2]). Correction of metabolic acidosis due to biguanide intoxication is of paramount importance. Sodium bicarbonate is the most frequently used agent in the treatment. Haemofiltraton and bicarbonate replacement are the most appropriate therapy in the treatment of acidosis associated with metformin. ([345678]). We performed haemodialysis using bicarbonate fluids although we lost the patient. As a result, haemofiltration should be initiated immediately in patients with acidosis associated with metformin. Thus mortality rates can be lessened.

CONCLUSION

For the maximum elimination of metformin, extended haemodialysis is required and the treatment of the accompanying metabolic acidosis with bicarbonate is important for the effectiveness of the treatment.

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