

A Rare Case of Metformin Associated Lactic Acidosis **Due to Deliberate Overdose with Metformin**

Abstract

Back ground

Metformin is an oral hypoglycemic belonging to the class of Biguanides and is used as a first line agent. It has a good cardiac safety profile and doesn't cause weight gain. With regard to its counterpart Phenformin which is withdrawn from the market due to the side effect profile, the lactic acidosis associated with Metformin is less common. It mainly presents in association with renal impairment, sepsis and other organ failures. Thus, the incidence of the lactic acidosis without any of the above is even less common. Pathophysiology is multifactorial. Inhibition of hepatic gluconeogenesis by Biguanides can result in hyperlactatemia. Clinical presentation does have a broad range involving predominant gastrointestinal complaints.

Case presentation

We report a case of an intentional overdose of more than 25g of Metformin in a sixteen years old Sri Lankan girl. She presented in about 10 hours of overdose with predominant gastrointestinal complaints and dehydration. Her serum biochemistry was normal on admission except hyperlactatemia with a serum bicarbonate value of 15mmol/l and acidosis (pH 7.04). She required hemodialysis in addition to the supportive care to come out from Metformin Associated Lactic Acidosis. When she was recovering from the lactic acidosis, she developed an iatrogenic complication, right sided Horner's syndrome as a result of hematoma in the root of neck due to the traumatic puncture with multiple access failures at the site of vascath insertion into the Internal Jugular Vein.

Conclusion

Metformin associated lactic acidosis is rare. It is even more rare in the absence of coexisting factors like renal, liver, cardiac and other organ failures and sepsis.

Even though our patient improved clinically with good supportive care, she was unable to come out from the lactic acidosis despite adequate hydration and iv bicarbonate therapy initially. Serum bicarbonate level, lactic acid level and the pH was normalized only after hemodialysis. In the presence of indications for dialysis it's advocated to proceed with hemodialysis since Metformin is dialyzable. Further, it will prevent undesirable systemic manifestations and unwanted complications.

Key words: Metformin, Lactic acidosis, Deliberate Overdose, Horner's syndrome