



## Case Report

## Breastfeeding ketoacidosis: A rare but important diagnosis for emergency physicians to recognize



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## ABSTRACT

We report a case of lactation ketoacidosis in a 22-year-old female who was breastfeeding two infants while dieting. She appeared non-toxic, but had a serum bicarbonate of 7meq/L, a pH of 7.07, and moderate serum ketones. She responded well to simple carbohydrate replenishment and brief cessation of breastfeeding. Emergency Physicians should be aware of this entity so as to avoid unnecessary morbidity and to begin prompt treatment.

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## 1. Case report

A 22-year-old female presented to the Emergency Department with 12 h of nausea, vomiting, and abdominal cramping without diarrhea. She denied any other complaints and had no significant past medical or surgical history. She had no history of alcohol or drug use and denied a history of diabetes. She noted that she was breast-feeding both her four month old and her 30-month-old children. She was also somewhat restricting her calories to lose weight.

This patient appeared non-toxic and was well hydrated. She had a BMI of 25. Her vital signs were notable for an initial sinus tachycardia of 126 BPM but were otherwise normal. Her physical exam was unremarkable.

The patient was treated with ondansetron and a trial of oral intake, which she passed successfully. Her laboratory results returned with serum bicarbonate of 7meq/L. She had moderate serum ketones and a serum pH of 7.07. Her glucose was 77mg/dl and her serum lactic acid was normal.

The patient responded well to refeeding and oral hydration with anti-emetics, as well as 24 h of no breastfeeding. She had a rapid correction of her pH and was discharged the day following admission. No other cause such as diabetic ketoacidosis, alcoholic ketoacidosis, or overdose was identified or strongly suspected.

## 2. Discussion

Bovine, or lactation ketoacidosis has been well described in lactating, post-partum cows since 1929 [1]. It has rarely been reported in the human medical literature with only 12 previous cases published, none

within the emergency medicine literature [2]. Just as in other animals, lactation ketosis can occur in humans when a lactating female has insufficient glycogen stores and oral carbohydrate intake to keep up with the metabolic expenditures of galactopoiesis [3]. The body then turns to the use of fat for energy with subsequent formation of ketone bodies. As in our case, this illness usually readily responds to simple, brief cessation of breastfeeding as well as having the patient eat a regular diet or giving them an intravenous glucose load. While there have been case reports of patients who appeared quite ill, our patient's appearance did not accurately portray that of a severely acidotic young woman [4].

## 3. Conclusion

This is the first report of lactation ketoacidosis in the emergency medicine literature. While rare, it is likely underdiagnosed and emergency physicians should be aware of this entity so they can decrease morbidity and render proper treatment and counseling to their lactating patients.

## References

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