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Morbidity and Mortality Risks of Premature Enteral Nutrition During the Recovery of Myxedema Coma (A Response to the Article Entitled “Pediatric Patient With Altered Mental Status and Hypoxemia”)

To the Editors:

I read with interest the article by Root et al¹ regarding the extreme rarity of myxedema coma in the pediatric population and agree that this ought not be missed as a differential diagnosis. The scenario, however, suggests that the level of experience managing this endocrine crisis among medical teams tends to be suboptimal. As such, the tendency and temptation to initiate enteral nutrition based solely on the typically rapid improvement in conscious level with intravenous levothyroxine therapy present a very real and present danger. Pediatric intensivists may advocate and routinely practice early enteral feeding in the wake of recent perspectives such as Casaer and Van den Berghe² who commented that enteral nutrition administered early during critical illness could be safely tolerated irrespective of residual gastric volume. Exceptions to the rule are severe hypothyroid patients and especially those with myxedema whereby gastric emptying and gastrointestinal motility are drastically compromised and often overlooked. Even the adult population in which hypothyroidism is highly prevalent and myxedema coma is precipitated by the stress of sepsis or trauma is arguably

“commoner,” deaths (mostly unpublished) from aspiration pneumonia after extubation and switching from parenteral to enteral feeding have inadvertently occurred.

When myxedema is correctly diagnosed and treated, the astonishing clinical recovery in mental status analogous to a “resurrection from the dead” belies the lagged recovery of the hypothyroid gut concealed intra-abdominally. The pathogenetic mechanism of this phenomenon lays in the differential rates of response of various hypothyroid tissues of the body to thyroid hormone replacement. This underscores the importance of emphasizing the perils of premature enteral nutrition during the management of myxedema crisis. Although the authors should be applauded for their judicious transitioning of thyroid medications from intravenous to oral formulation after approximately 7 days probably coinciding with the introduction of enteral nutrition which undoubtedly resulted in a positive outcome in this 5-year-old girl, their lack of emphasis about this potential devastating complication and the ways to minimize that risk in their article are rather unsettling.

As a practicing endocrinologist, I have personally encountered at least 2 fatalities of this nature in the recent few years. It is painfully tragic because relatives of the deceased were initially overwhelmed with gratitude by the “miraculous” swift reversal of coma and yet only to be overcome with grief shortly after when aspiration pneumonia was precipitated by overzealous transitioning of parenteral to enteral feeding. In myxedema patients, it cannot be overemphasized that continued parenteral nutrition is beneficial and indicated till such time when gastrointestinal hypomotility has unequivocally resolved.

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2. Casaer MP, Van den Berghe G. Nutrition in the acute phase of critical illness. *N Engl J Med*. 2014;370:1227–1236.