This study was designed to assess if the two-bag (TB) system, which utilizes 2 intravenous (IV) fluid bags, one containing sodium chloride and the other containing sodium chloride and dextrose, is an effective and safe alternative to the traditional one-bag (OB) system in adults with DKA" Cho et al (2019).

Abstract:

PURPOSE: Diabetic ketoacidosis (DKA) is a serious complication of diabetes mellitus (DM). This study was designed to assess if the two-bag (TB) system, which utilizes 2 intravenous (IV) fluid bags, one containing sodium chloride and the other containing sodium chloride and dextrose, is an effective and safe alternative to the traditional one-bag (OB) system in adults with DKA.

METHODS: A retrospective review was performed at an academic medical center. Adults with DKA were included if treated with the OB or TB system. The primary outcome was time to anion gap closure. Secondary outcomes included duration of insulin infusion, time to serum bicarbonate correction, number of continuous IV fluid orders, intensive care unit (ICU) and hospital length of stay (LOS), and rates of hypoglycemia and hypokalemia.

RESULTS: One hundred twenty-two patients were included. Sixty-eight were treated with the OB system and 54 with the TB system. There were no differences in time to anion gap
closure, duration of insulin infusion, ICU LOS, or hospital LOS. Time to bicarbonate correction was shorter in the OB group (13.5 vs 25 hours; P = .03). There were no differences in rates of hypoglycemia or hypokalemia between groups.

CONCLUSION: The TB system had similar efficacy and safety when compared to the OB system. Both approaches can be considered in adults with DKA.

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