

## DECLARATION

I, Daksha Jivan, declare that this research report is my own work. It is being submitted for the degree of Master of Medicine in the branch of Endocrinology and Metabolism to the University of Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other university.

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Daksha Jivan

Signed on the 2<sup>nd</sup> day of April 2012

This research project is dedicated to my parents, Morar and Tara Jivan. I will never be able to thank you enough for what you've taught me.

## PRESENTATION AND PUBLICATION ARISING FROM THIS STUDY

Oral Presentation at the 46<sup>th</sup> Society for Endocrinology, Metabolism and Diabetes of South Africa (SEMDSA) Congress, Bloemfontein, South Africa, 8 – 12 April 2011

Normal saline versus Ringer's lactate as initial fluid therapy of diabetic ketoacidosis

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An abstract of this study was published in the Journal of Endocrinology, Metabolism and Diabetes of South Africa:

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## **ABSTRACT**

### **OBJECTIVE**

To determine whether there are differences in time to resolution of diabetic ketoacidosis (DKA) and in the occurrence of biochemical abnormalities in adult patients who received either normal saline or Ringer's lactate as initial fluid resuscitation.

### **RESEARCH DESIGN AND METHODS**

This prospective observational study compared outcomes in patients who received either normal saline (n=22) or Ringer's lactate (n=18) as initial fluid therapy during the acute management of DKA.

### **RESULTS**

Median time to resolution of DKA did not differ between the two groups [normal saline 18.5 hours (IQR 9-25) compared to Ringer's lactate 17 hours (IQR 10-24);  $p=0.23$ ]. There were also no significant differences in the incidence of hypernatraemia, hyperchloraemia or worsening acidosis between the groups.

### **CONCLUSION**

Either normal saline or Ringer's lactate may be used as initial fluid resuscitation in DKA as neither fluid conferred a benefit in time to resolution of DKA or in the occurrence of biochemical abnormalities.

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