Worcestershire NHS
Acute Hospitals NHS Trust

MANAGEMENT OF HYPEROSMOLAR NON-KETOTIC STATE (HONK)/HYPERFLYCAEMIC HYPEROSMOLAR STATE (HHS)

This guidance does not override the individual responsibility of health professionals to make appropriate decision according to the circumstances of the individual patient in consultation with the patient and/or carer. Health care professionals must be prepared to justify any deviation from this guidance.

INTRODUCTION

This document is designed to ensure that patients presenting with HONK are cared for to a uniformly high standard within WAHT. The document also satisfies a requirement of the Diabetes NSF.

All patients presenting to WAHT with HONK are covered by this guideline.

COMPETENCIES REQUIRED

Qualified medical staff and registered nurses.

Lead Clinician(s)

Dr D Jenkins	Consultant Physician
Approved by Clinical Effectiveness Committee on:	3rd May 2005
Approved by Medicines Safety Committee:	11th May 2005
Reviewed by Clinical Lead and agreed to continue for a further period without alteration:	24th September 2009
Review Date: This is the most current document and is to be used until a revised version is available	19th December 2019

Key amendments to this guideline

Date	Amendment	By:
11/07/11	Title: Management of Hyperosmolar Non-Ketotic State (HONK)/ Hyperglycaemic Hyperosmolar State (HHS).	D. Jenkins
11/07/11	Change of mortality figure from 50% to 10%	D. Jenkins
November 2016	Documents extended for 12 months as per TMC paper approved on 22nd July 2015	TMC
November 2017	Document extended whilst under review	TLG
December 2017	Sentence added in at the request of the Coroner	
December 2017	Document extended for 3 months as per TLG recommendation	TLG
March 2018	Document extended for 3 months as approved by TLG	TLG
June 2018	Document extended for 3 months as approved by TLG	TLG
June 2019	Document extended for 6 months whilst review and approval process	Alison Hall

GUIDELINE FOR THE MANAGEMENT OF HYPEROSMOLAR NON-KETOTIC STATE (HONK)

GUIDELINE

Elderly patients may present with severe hyperglycaemia and dehydration in the absence of ketoacidosis. HONK is confirmed by severe hyperglycaemia (blood glucose in excess of 30mmol/l) and a calculated serum osmolality of 350mmol/l or greater (multiply sum of serum Na and K by 2, then add the concentrations of both urea and glucose). HONK is uncommon and may well be the first manifestation of diabetes mellitus.

Investigation and treatment for HONK is as for diabetic ketoacidosis (see Trust guideline) *except:*

Patients are often profoundly hypernatraemic. This can worsen with treatment. If the initial serum Na is 160mmol/l or greater, fluid replacement should commence with 0.45% saline. Serum electrolytes should be repeated after 2 hours of fluid resuscitation. If serum Na continues to rise, switch fluid replacement to 5% dextrose.

Patients with HONK are often very sensitive to insulin. Care should be taken to monitor blood glucose closely to avoid hypoglycaemia.

Patients with HONK often die from pulmonary embolism. All patients should receive full-dose heparin (Clexane 1.5mg/kg once daily) until fully mobile.

Bronchopneumonia is frequently present in patients with HONK. After blood cultures have been taken, commence a broad-spectrum antibiotic.

Patients with HONK are usually elderly and very sick. Mortality exceeds 10% in most series. Consider transfer to an HDU bed.

The recovery phase may be slow. Resolution of obtundation may lag some days behind biochemical recovery. Rehabilitation may require several weeks.

Insulin is not always needed in the long-term. The diabetes team should be involved at an early stage of the patient's management.

MONITORING TOOL

STANDARDS	%	Clinical Exceptions
Commence fluid resuscitation within 30 minutes of assessment	95%	Major difficulty with venous access
Commence IV insulin within 30 minutes	95%	See above
Refer all patients to diabetes team	99%	Patient died within 6 hours

How will monitoring be carried out?	Regular audit of admissions
When will monitoring be carried out?	After 12 months
Who will monitor compliance with the guideline?	Diabetes team

REFERENCES

Krentz, A. and Nattrass, M. Acute Metabolic Complications of Diabetes: Diabetic ketoacidosis, hyperosmolar non-ketotic hyperglycaemia and lactic acidosis. In Chapter 32, Textbook of Diabetes, 3rd edition, eds J. Pickup, G. Williams. Blackwell Publishing. Oxford.

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