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The role of the C-Reactive protein as a marker of infection and the judicious use of antibiotics in diabetic ketoacidosis

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Diabetic Ketoacidosis (DKA) carries a significant mortality risk. The neutrophil counts can be raised in DKA secondary to infection or as a stress response to the condition. Our aim was to investigate if the C-reactive protein (CRP) was an appropriate marker of infection to be the basis of judicious use of antibiotics in people with DKA. Fifty consecutive diabetic patients, aged 14 years and above, with Type 1 diabetes who were admitted with a diagnosis of DKA were studied. DKA was defined by a laboratory glucose level of >11 mmol/l, an arterial pH of <7.35, a venous bicarbonate of <15–16 mmol/l, and urinary ketones of $++$ or more. History and examination findings in support of infection e.g., fever, symptoms of respiratory, urinary, abdominal, skin or central nervous system infections as well as measurement of CRP, white cell and neutrophil counts, liver function tests, blood cultures, mid-stream urine and chest x-rays, were studied. Where clinically indicated, skin swabs, abdominal x-rays, ultrasound of the abdomen, lumbar punctures, malarial parasite screens and CT brains had been performed. We found that apart from one out of the 50 people we studied with a DKA and a raised CRP, only one had both clinical and laboratory-based evidence of infection. We conclude that in order to avoid the emerging problem of multiple resistant organisms and antibiotic-induced infections, such as *Clostridium difficile*, they should be used judiciously in people with DKA and a raised CRP, only when there is hard evidence of an infection in their history, clinical examination and/or on investigations.

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Diabetes prevalence in hospital in-patients is high: exploring the burden of in-patient diabetes care

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Background: The prevalence of diabetes is increasing worldwide. Patients with diabetes who has sub-optimal glycaemic control are admitted more frequently to hospital and stay twice as long compared to non-diabetic subjects. Hyperglycaemia in hospital is associated with increased mortality.
Aim: To assess the prevalence of diabetes in hospital and explore the burden on in-patient diabetes care.
Method: Case records of patients occupying in-patient beds (excluding paediatrics and psychiatry) were audited on a single weekday in a single Trust across two hospital sites.
Results: Eight hundred and thirty-six in-patients were surveyed (mean age 64 year; range 14–101) Bed occupancy was 70%. There were 120 subjects with known diabetes (mean age 70 year; range 25–99, 54% women, 95% Caucasian). 15% ($n=18$) were diet controlled, 47.5% ($n=57$) were on oral hypoglycaemic agents (OHA) and 36.7% ($n=44$) were on insulin and OHA. Crude prevalence of in-patient diabetes was 14.4%. Age standardized prevalence was 8.6% (95% CI, 6.6–10.5). Age specific prevalence rates for age bands 20–39, 40–59, 60–79, and >80 year were 3.6%, 14.1%, 18.7% and 14.1% respectively. Diabetes was listed as a diagnosis in 93.3% of patients and current diabetes treatment was documented in 87% of case records.
Conclusion: The prevalence of in-patient diabetes is high particularly in the 60–79 age band. Documentation of diabetes therapy in hospital notes is sub-optimal and may affect acute care of patients. The high prevalence of in-patient diabetes has major implications for specialist nurse cover and service delivery.

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Management of DKA according to departmental DKA protocol

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Background: The new DKA protocol has been in use here for 4 years. It was developed to provide guidance for all healthcare professionals involved to play their part and improve the quality of care for this complex condition. The institute: Musgrove Park Hospital, Taunton and Somerset Hospital trust, Taunton, TA1 5AB.
Objectives: To measure protocol adherence for DKA in 16 years and above patients. To identify areas for improvement in the management of DKA.
Method: This was a retrospective audit. Fifty patients were identified between August 2005 to July 2006. Thirty-seven of these cases were reviewed, 5 were excluded; they did not fulfil the criteria for DKA.
Results: Patients were 50% male, aged 17 to 86 years. Mean age was 36 years, mode 19 years. Major protocol deviations were: 1 Glasgow coma scale monitoring preformed in less than 50%. 2. Correct monitoring of essential biochemical parameters in 22%. Potassium was not monitored regularly in 40%. 3. Correct fluid resuscitation in 34 per cent with only 50 per cent starting dextrose as the glucose level fell less than 15 mmol/l. 4. Fixed dose iv insulin until the glucose level was less than 10 mmol/litre was administered only in 25%.
Learning points: 1. The complex protocol was not adhered to with evidence of lack of monitoring and treatment co-ordination. 2. With care being sub-optimal, we must improve. Edinburgh has introduced an Integrated Care Pathway for the management of DKA. Redesigning our protocol to address these deficits in management.

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The diagnosis of diabetic gastroparesis: which patients and how?

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Diabetic gastroparesis is clinically important yet poorly understood. Gastrointestinal symptoms are common in patients with diabetes, however, the American Gastroenterological Association state that the diagnosis of gastroparesis also requires demonstration of delayed gastric emptying in the absence of an obstructing lesion. This study aimed to investigate the process of diagnosis, and the patient characteristics, of those treated for diabetic gastroparesis in a District General Hospital. Five patients were identified by