Enteral feeding and keeping glucose levels at target

Glycaemic control during enteral tube feeding in patients with diabetes who have had a stroke: a twice-daily insulin regimen. SO Oyibo, *et al*. Pages 135–139

In 2010–2011, the Quality and Outcomes Framework data reported that the prevalence of stroke or transient ischaemic attacks in England was 1.7%, representing a little under 945 000 recorded episodes.[1] At the same time, the prevalence of diabetes in adults was reported as being 5.5%.[1] As previous data have shown, diabetes confers an increased risk of stroke, more than doubling the risk compared with those who do not have the condition.[2] Furthermore, the presence of hyperglycaemia accompanying a stroke is associated with greater morbidity and mortality.[3,4]

Those of us who look after people with diabetes in our outpatient clinics on a day-to-day basis realise that the complex relationship between carbohydrate intake and good glycaemic control can be difficult to master. Indeed, despite regular education many of our patients never quite grasp the concept or the importance of this relationship let alone how to manage it. Of the many disabilities associated with stroke, dysphagia remains one of the most distressing. The inability to eat and drink without hindrance places many physiological and (often more importantly) psychological stresses on an individual, thus making the control of their diabetes that bit more difficult to achieve.

In the inpatient setting, things often go from bad to worse, and the factors that may make things worse are often not under the patient's control. Data looking at what most influenced the satisfaction of patients with diabetes while they were in hospital showed that meals were high on the list for *dissatisfaction*, with a substantial proportion saying that they would never or very rarely make the same meal choices at home.[5] Of course, timing of meals in relation to insulin administration also remains high on the list of causes of preventable hypoglycaemia.[6] People who have had a stroke, and who require enteral nutrition, rely on medical and nursing staff who understand the needs of the patient and the importance of correct timing of their glucose lowering agents to be given in relation to their enteral feeds.

The confidence of junior medical staff in managing diabetes has recently been highlighted as poor.[7,8] For this, and other reasons, NHS Diabetes commissioned the production of e-learning packages for the safe use of insulin, and the safe use of intravenous insulin.[9] Almost 100 000 NHS staff in England have registered to do these modules. In the near future, an additional module on the safe use of oral hypoglycaemic agents will also be appearing.

The publication of the accompanying article by Oyibo *et al*. in the current issue of *Practical Diabetes* is timely. These authors show that by using a simple twice-daily subcutaneous insulin regimen using a carbohydrate to insulin ratio (determined by the usual pre-stroke daily dose of insulin), as well as the rate of feed infusion, they managed to keep capillary glucose levels at target (6–12mmol/L) for 17 out of the 24 patients they enrolled – importantly, with no hypoglycaemic events. Those patients who did not reach target had other pathologies or pulled out their nasogastric tubes. What was also interesting was that whether they used isophane insulin, or a premixed (30/70) soluble/isophane insulin, they achieved similar results in terms of the proportion of people who achieved their target glucose levels, and how long it took them to do so.

The Joint British Diabetes Societies (JBDS) Inpatient Care Group has also produced a guideline to manage glucose levels in people with diabetes admitted with a stroke – this is due for imminent publication and will be available on the NHS Diabetes website, along with all of the other JBDS documents. In line with other documents it outlines the rationale for the guideline, the blood glucose targets, and a section on controversial areas.

As with all of the JBDS documents, much of the evidence base is limited and many of the recommendations are based on expert opinion and consensus where no evidence currently exists. However, as with Oyibo *et al.*, where teams in the UK have evidence that an intervention works, then I would encourage them to publish it so the evidence base in the increasingly important area of inpatient diabetes care expands.

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