

Risks and costs of hypoglycaemia in older people with diabetes



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Hypoglycaemia is most commonly caused by diabetes medications, often attributed only to insulin therapy, but is equally common with sulphonylurea usage (UK Hypoglycaemia Study Group, 2007). This poses particular risk to the older person with diabetes for a number of reasons, as highlighted in the article by Jose et al in this month's supplement.

Impairment of cognition is common with ageing, and this, coupled with reduced or absent warning signs, means that the older person with diabetes has less time to act and treat their hypoglycaemia before becoming confused and unconscious. Sulphonylurea usage is also common in this group and is often preferred to commencing insulin therapy. However, it is not viewed with the same risk of hypoglycaemia as that shown by the UK Hypoglycaemia Study Group (2007), in which severe hypoglycaemia rates were comparable among people with type 2 diabetes on sulphonylureas or insulin therapy.

Severe hypoglycaemia requires third-party assistance; again, this poses particular problems for older people. They may be living alone, or in residential care, and their hypoglycaemic episodes may not be treated because either there is nobody there to help, or their confusion, aggression or drowsiness may be attributed to other pathologies, and not recognised as signs of hypoglycaemia.

Consider the case of an 85-year-old man who lives alone. He was admitted to hospital via A&E with a fractured neck of femur. We met him on our elderly admissions unit to assess his diabetes management, organise his diabetes treatments pre- and postoperatively, and review his reason for admission. He had a history of regular falls, once or twice per week, although none of the previous episodes had resulted in fractures. On reviewing his medication, he was taking gliclazide and metformin twice daily. His diet and appetite was often poor. He did not self-monitor his blood glucose levels or attend his practice for reviews, as he felt fine. He obtained his medication on

repeat prescription, sent to the local chemist. He remembered his tablets most days.

His last HbA_{1c} level was 5.6% (38 mmol/mol). His admission blood glucose level was 2.3 mmol/L. He had been brought in by ambulance after falling in his garden, and being spotted by a neighbour. He remembered feeling light-headed before he fell over. Our conclusion was that his fall was a result of a hypoglycaemic episode. His HbA_{1c} level had been low (<6.5%; <48 mmol/mol) for the past 2 years; thus, one could suggest that had his treatments been reviewed and reduced in the light of his failing appetite, poor diet and low HbA_{1c} level, this fall and fracture, and hospital admission, could have been avoided. Our actions were to stop his gliclazide, continue with metformin and organise regular district nurse review of his blood glucose levels once discharged.

Unfortunately, this case is not unique – we are finding increasing numbers of older people admitted via A&E with hypoglycaemia, many of whom have low HbA_{1c} levels. The ACCORD (Action to Control Cardiovascular Risk in Diabetes) Study Group (2008) demonstrated that HbA_{1c} levels <6.5% (<48 mmol/mol) were associated with increased mortality rates, so it is particularly important that this target is not used for older people with diabetes.

So what can we do to improve this? We have obtained hypo- and hyperglycaemia data by practice for our area, and we want to work with our primary care colleagues to understand these data, and check their registers for people with HbA_{1c} levels <7% (53 mmol/mol), particularly those aged >65 years. This will enable us to start to scope the number of hypoglycaemia-related admissions, and try to reduce this risk. We have become more aware of this problem through our daily visits to A&E and admission areas, and our review of patients with fractured neck of femur. There may be many more similar cases out there; maybe some of these strategies may help you to identify yours.

Action to Control Cardiovascular Risk in Diabetes Study Group (2008) Effects of intensive glucose lowering in type 2 diabetes. *N Engl J Med* **358**: 2545–59

UK Hypoglycaemia Study Group (2007) Risk of hypoglycaemia in type 1 and 2 diabetes: effects of treatment modalities and their duration. *Diabetologia* **50**: 1140–7

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