

Appendix 9: Initiation of insulin therapy in older adults

Given the presence of comorbidities as well as the risk and consequences of hypoglycemia in older adults (defined by most studies as people aged 65 or older), insulin therapy should be initiated with particular care in this population. However, insulin initiation can be safely done in the primary care setting^{1,2} and does not negatively affect the quality of life of patients.^{1,3}

Which insulin regimen should be used?

There is conflicting evidence regarding the effectiveness of combination therapy with insulin glargine and oral antihyperglycemic agents (OAHAs) versus premixed insulin twice daily. Although both regimens have been found to reduce glycolated hemoglobin A_{1c} (HbA_{1c}) values, one study showed greater HbA_{1c} reduction⁴ with glargine, whereas the other showed greater HbA_{1c} reduction with premixed insulin.⁵ Combination therapy with insulin glargine and OAHAs resulted in fewer hypoglycemic episodes^{1,4,5} and less weight gain^{1,5} than premixed therapy. There was no difference in glycemic control or in risk of hypoglycemic episodes between morning and bedtime administration of intermediate-acting insulin.⁶ A six-month study showed that oral antihyperglycemic agents and a basal-bolus regimen improved glycemic control and mood, whereas a regimen of twice-daily NPH did not.⁷

Should OAHA therapy be continued?

The addition of once-daily injection of NPH while continuing a sulfonylurea in the older adult population resulted in glycemic control comparable to that with a regimen of NPH twice daily.⁸ Although the addition of insulin glargine to OAHA therapy resulted in a reduction in HbA_{1c} similar to that achieved with intensification of OAHA therapy, it resulted in a significantly greater reduction in fasting blood glucose levels and hypoglycemic episodes.⁹

Overall, initiation of insulin in older adults is safe and effective. A regimen of long-acting insulin once daily in addition to OAHA therapy appears to be effective and is associated with fewer hypoglycemic episodes than with premixed therapy. However, because there is not enough evidence available to suggest the optimal regimen in this patient population, the choice of insulin should be made based on the individual patient's characteristics and preference. Continuing OAHA therapy appears to be safe in older adults when starting an insulin regimen of intermediate- or long-acting insulin.

References

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