

Drug Treatment in Elderly Diabetic

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The age-related changes in the functioning of the liver, kidneys & the cardiovascular system may alter drug kinetics as well as drug response. In addition, the incidence of adverse drug events, adverse drug-drug interactions and non-compliance is also much higher in the elderly. Hence drugs with proven efficacy and safety as well as with once daily dosage should be preferred in the elderly.

In an elderly diabetic, control of CAD risk factors is much more important than rigid control of hyperglycemia.

Gliclazide & Glimepiride are the preferred sulfonylureas in the elderly, as they are less likely to produce hypoglycemia. Long acting sulfonylureas such as glibenclamide should be avoided in the elderly. Starting dose of a sulfonylurea should be half of that used for younger diabetic and up-titration should be gradual.

Metformin can be safely used in diabetic patients aged 70 years or less with good renal function (i.e. CrCl > 60ml/min). Metformin lowers blood glucose levels by decreasing hepatic glucose output. Apart from lowering blood glucose levels, metformin therapy leads to modest weight loss and lowering of serum triglycerides and LDL-C levels. Metformin monotherapy is as effective as sulfonylurea or glitazone monotherapy.

If metformin monotherapy fails to achieve the HbA_{1C} goal, it can be safely combined with a sulfonylurea or a glitazone. Metformin is contraindicated in patients aged > 80 years and in patients with serum creatinine > 1.5mg/dl. To minimize the risk of lactic acidosis, metformin therapy should be avoided in patients with hypoxia, heart failure or liver disease. In elderly diabetics, the dose of metformin should not exceed 1500 mg/day.

Glitazones help in reducing insulin resistance. Apart from lowering blood glucose levels, glitazones decrease triglycerides, increase HDL-C by 10-20% and

improve endothelial dysfunction. They are particularly useful in elderly diabetics with renal dysfunction. Weight gain and edema are the most commonly reported side effects of glitazones. Glitazones should be avoided in patients with liver disease or heart failure.

Alpha-glucosidase inhibitors (Acarbose, Miglitol) are less effective than other agents and should be considered in patients with mild diabetes. Flatulence, abdominal discomfort and diarrhea are their common side effects.

Meglitinides (Repaglinide, Nateglinide) are rapid and short-acting insulin secretagogues and are useful for patients with postprandial hyperglycemia. They are particularly useful in patients with irregular eating habits and in those who develop hypoglycemia with sulfonylureas.

If oral anti-diabetic drugs fail to achieve HbA_{1C} goal, insulin may be added. Use of premixed insulins and prefilled insulin pens is recommended to reduce dosage errors.

Apart from anti-diabetic drugs, all diabetics should receive a statin irrespective of their LDL-C level. LDL-C level should be kept below 70mg/dl in diabetics with CAD.

ACE inhibitors/AT₁ receptor blockers are the drug of choice for diabetic hypertensives. These drugs improve insulin sensitivity, decrease proteinuria and prevent progression of nephropathy. If required, they can be safely combined with diuretics, beta blockers or calcium channel blockers.

All diabetics should also receive a low dose of aspirin, if there are no contra-indications.
