DRUG THERAPY OVERVIEW DIABETES MELLITUS

2/2/10

Drug Class	Generic Name (Brand Name)	Adverse Effects	Comments
Biguanide • Inhibits hepatic glucose output • ↑uptake of peripheral glucose • ↓HbA1c 0.8%-2%	Metformin (Glucophage)	GI* distress Metabolic acidosis	• Extended release may have better GI tolerance • Administer with meals • Less associated weight gain • 5% weight loss may occur
Combination Product • Same action as single agents, in combination • ↓HbA1c	Glyburide/Metformin (Glucovance) Rosiglitazone/metformin (Avandamet) Sitagliptin/metformin (Janumet) Pioglitazone/metformin (ActoPlusMet) Rosiglitazone/glimepiride (Avandaryl)		
Second Generation Sulfonylurea • Stimulates insulin release from the pancreas • ↓HbA1c 0.9%-1.8%	Glyburide (Diabeta), (Micronase) Glipizide (Glucotrol) Glimepiride (Amaryl)	Weight gain Hypoglycemia	
Thiazolidinedione • Enhances insulin sensitivity • ↓HbA1c 1.1%-1.6%	Pioglitazone (Actos) Rosiglitazone (Avandia)	Edema Weight gain(3-6 lb) Heart failure Hepatic toxicity	• ↓ glucose may not be apparent for 4wk • Administer with or without food • Avoid in patients with liver disease • Use only if at low risk for heart disease
Glinide • Stimulates insulin secretion	Repaglinide (Prandin) Nateglinide (Starlix)	Hypoglycemia Weight gain	• Administer 15-30 minutes before meal
Alpha-Glucosidase Inhibitor • Delays carbohydrate absorption from the GI tract thereby ↓ postprandial hyperglycemia	Acarbose (Precose) Miglitol (Glyset)	Dose related : Diarrhea Abdominal pain Flatulence	• Administer with first bite of each main meal • Avoid in cirrhosis • Avoid in digestive diseases • Concurrent use w/sulfonylurea: treat hypoglycemia with oral glucose not sucrose
Dipeptidyl peptidase –IV • Slows inactivation of incretin hormones • ↓HbA1c 0.6%-1.05%	Sitagliptin (Januvia)	Nasopharygitis Headache URI	• Administer with or without food • Reduce dosage in patients w/renal insufficiency
Incretin mimetic • Stimulates production of insulin • Suppresses postprandial glucagon • Slows rate of gastric emptying • ↓HbA1c 0.6%-0.8%	Exenatide (Byetta)	Hypoglycemia Nausea Vomiting Diarrhea	• Do not use if patient has gastroparesis
Neuroendocrine-amylin analog • Slows rate of gastric emptying by suppressing postprandial glucagon • Decreases appetite • ↓HbA1c 0.3%-0.66%	Pramlintide (Symlin)	Hypoglycemia Nausea	• Administer before major meals