

ANTIDIABETICS

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Antidiabetic Agents: Effects on Glycemia and Potential for Cardiovascular Risk Reduction





Disadvantages of Acarbose

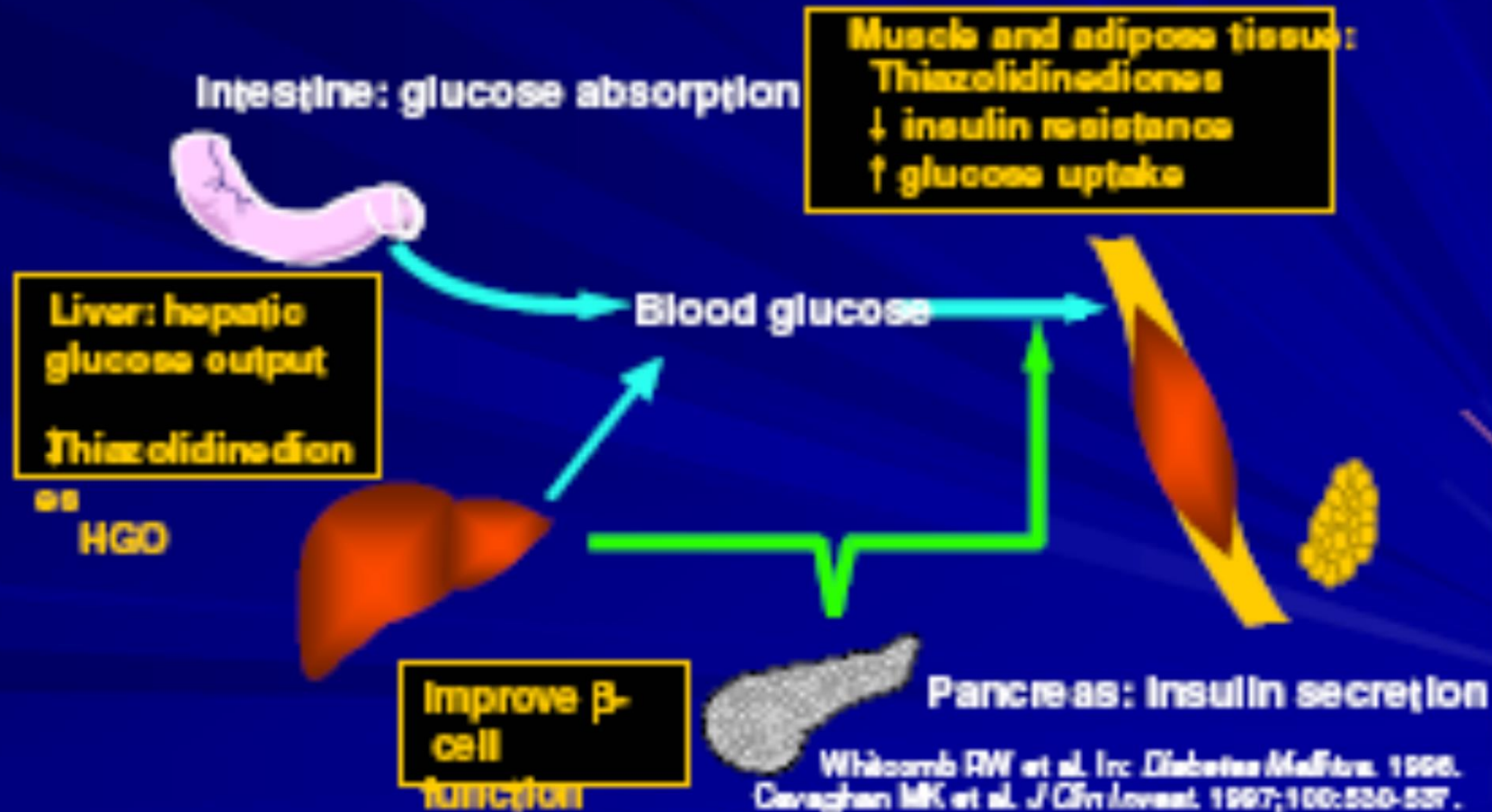
- GI side effects
 - flatulence (80%), diarrhea (27%), nausea (8%), vomiting (7%)
 - start with low doses (25 mg with each meal), titrate slowly to therapeutic range
- Elevations in serum aminotransferase may occur, particularly with doses >150 mg/day; hyperbilirubinemia rarely occurs
 - serum aminotransferase measurement every 3 months during first treatment year
 - acarbose in combination with sulfonylurea or insulin may be associated with hypoglycemia; if hypoglycemia occurs, treat with glucose PO or IV



Acarbose Summary

- Reduced postprandial plasma glucose and insulin responses
- Effective in patients with type 2 diabetes treated with diet, sulfonylureas, metformin, or insulin
- No increase in hypoglycemia when used alone
- No effect on lipid profiles

Thiazolidinediones: Mechanism of Action



Whitcomb RW et al. *Inc Diabetes Mellitus*. 1996.
Cavanagh MK et al. *J Clin Invest*. 1997;100:530-537.
Ehmann DA et al. *J Clin Endocrinol Metab*. 1997;85:2105-2116.



The PPAR Family

Ligand

Fibrates

Thiazolidinediones

Fatty acids

Receptor

PPAR- α

PPAR- γ

PPAR- δ

Effect on:

Lipoprotein expression

Peroxisome proliferation

Lipid synthesis

Carbohydrate metabolism

Thiazolidinedione Dosage/Potency



Agent

Dosage Range

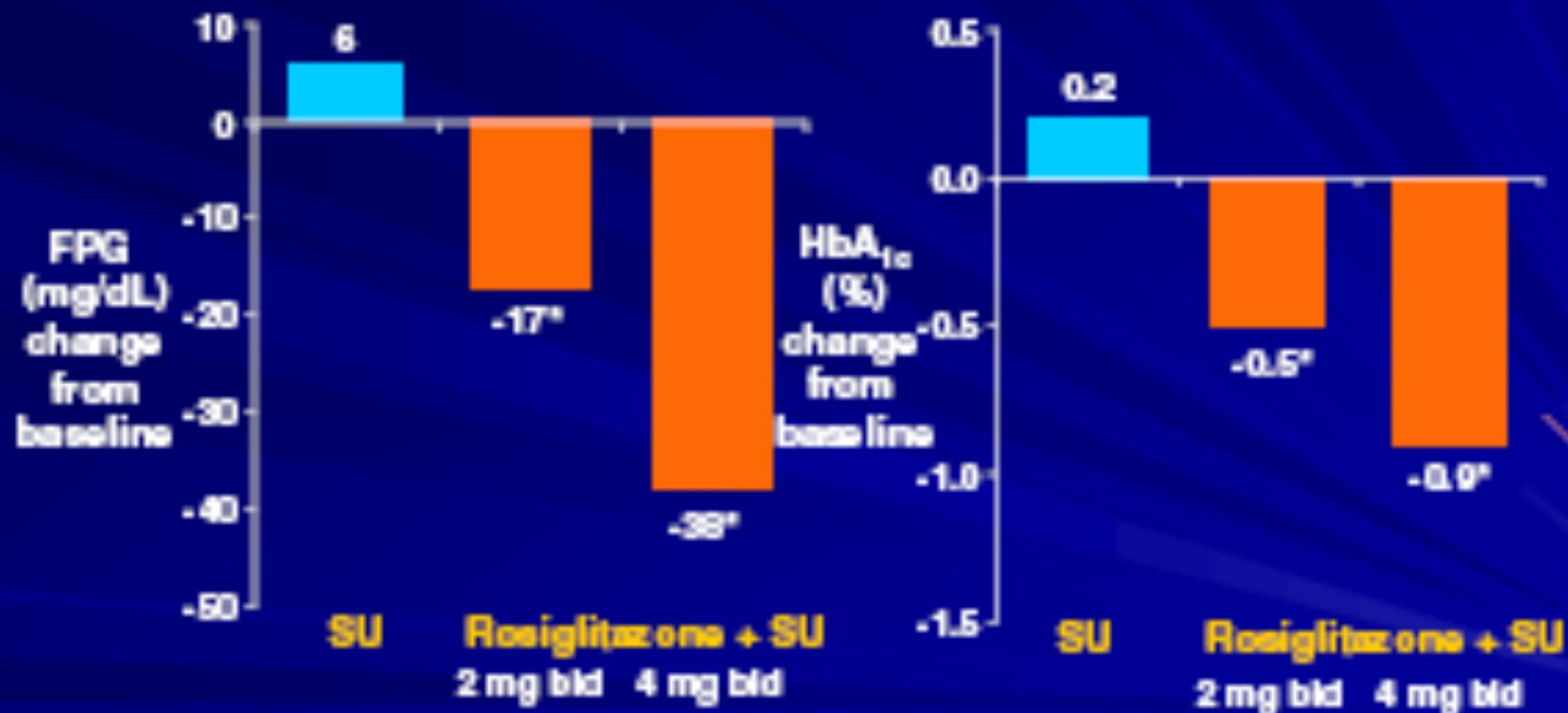
Rosiglitazone
doses)

4–8 mg daily (in 1 or 2

Pioglitazone

15–45 mg once daily

Effects of Rosiglitazone and Sulfonylurea on FPG and HbA_{1c}



* $P < 0.0001$ for comparison with SU alone

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Cornis R et al. *Diabetes*. 1999;48(A5): Abstract.



Thank you