ANTIDIABETICS

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





Metformin: Mechanism of Action

1 Intestine: glucose absorption

2 Muscle and adipose (Issue: glucose uptake Metiormin glucose utilization

Insulin resistance

Blood glucose

4 Liver: hepatic glucose output Metformin HGC

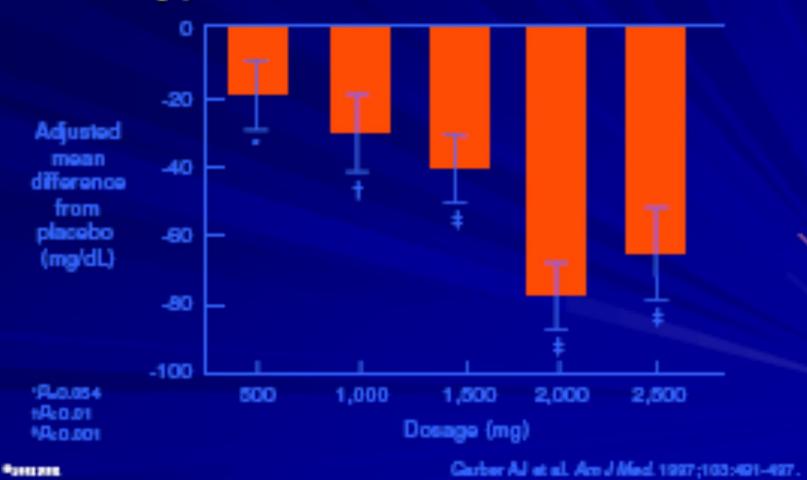
> insulin resistance

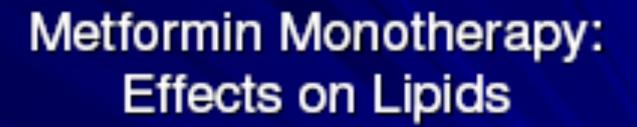
> > 3 Pancreas: Insulin secretion

DeFronco RA et al. J Clin Endopino/Metab. 1991;73:1294-1

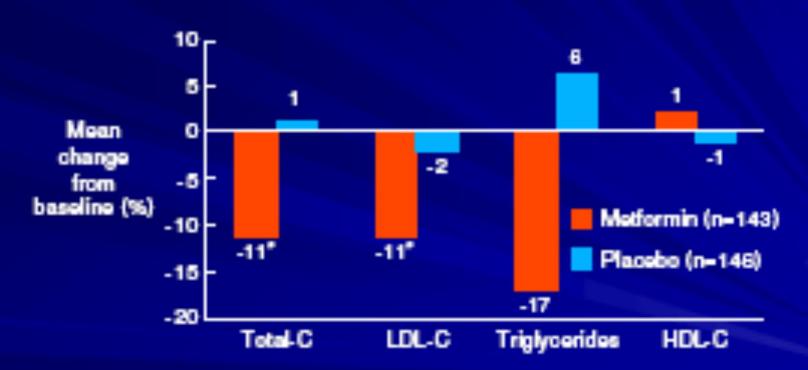
Effect of Metformin in Type 2 Diabetes: FPG

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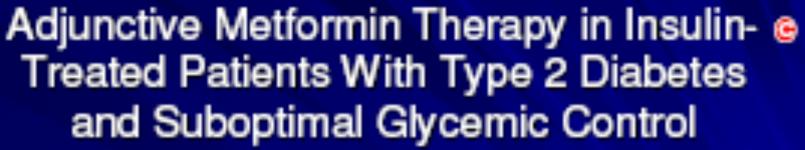


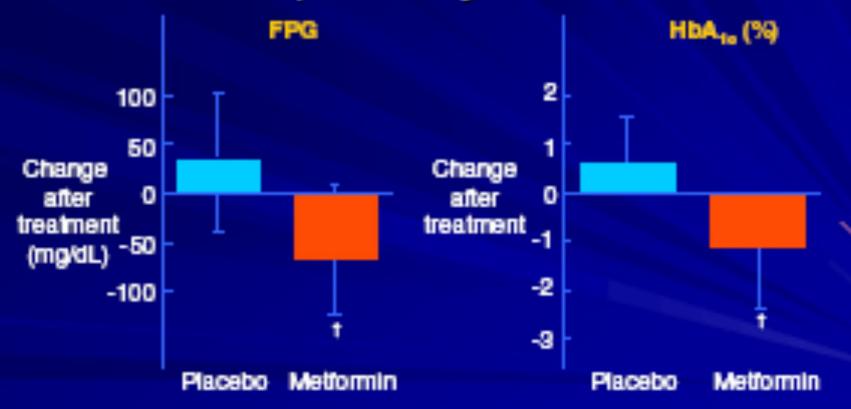


"R:0.05 vs placebo

*2011 7.00

DeFronzo FA et al. N Engl J Med. 1995;333:541-549.





†Ac0.001; mean ± SD

Robinson A C et al. Diabetes Care. 1998;21:701-705.



Metformin Prescribing Considerations

- Metformin is contraindicated in
 - renal dysfunction: serum creatinine ≥1.5 mg/dL (men) or ≥1.4 (women), or abnormal creatinine clearance
 - CHF requiring pharmacologic treatment
 - use of iodinated contrast materials for radiologic studies
 - known hypersensitivity to metformin
 - acute or chronic metabolic acidosis, including diabetic ketoacidosis
- Special warning on increased risk of cardiovascular mortality

α-Glucosidase Inhibitors: Mechanism of Action

1 Intestine: glucose absorption
Acarbose glucose absorption secondary
tol. digestion of carbohydrate

 Muscle and adipose fissue: glucose uptake

Insulin resistance

Blood glucose

4 Liver: hepatic glucose output

> Insulin resistance

> > 3 Panoreas: insulin secretion

Ametroda JM. In: Diabetes Melitus, 199

Special season



