



Beneficios de la combinación saxagliptin/metformin liberación prolongada

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Conflictos de interés

- Conferencista: Astra Zeneca, Abbott Nutrición, Novartis Oncology, Novo Nordisk, Merck Sharp & Dohme, Roche, Glaxo SmithKline, Sanofi Aventis, Genzyme
- Advisory Board: Novartis Oncology, Sanofi Aventis, Astra Zeneca, Novo Nordisk
- Investigación clínica: Astra Zeneca, Novartis Pharma Logistics Inc., Merck Sharp & Dohme, Glaxo SmithKline, Organon, Boehringer Ingelheim, Roche

Agenda

- Hay diferencias entre inhibidores de DPP-4?
- Saxagliptin/metformin XR, diferencias
- Cuál es la importancia de la formulación?
- Inestabilidad glicémica
- Seguridad cardiovascular y datos en ICC

Inhibidores de DPP-4

- Sitagliptina
- Vildagliptina
- Linagliptina
- Saxagliptina
- Alogliptin
- Hay alguna diferencia entre ellas?

Inhibidores de DPP-4

- Eficacia clínica:
 - No hay estudios comparativos directos
 - Comparaciones indirectas muestran eficacia similar
- Posología:
 - OD: sitagliptina, linagliptina, saxagliptina, alogliptina
 - Bid: vildagliptina
 - Por seguridad hepática en fase II
 - Semanal: omarigliptina

Diferencias cinéticas

- Inhibición del DPP-4
 - No relevante por tener vidas medias largas de inhibición
- Vía de eliminación
 - Renal: sitagliptina, saxagliptina, vildagliptina
 - Reducir dosis 50% si AEC <50 cc/min
 - Hepático: linagliptina
 - No ajuste de dosis en insuficiencia renal
 - La ventaja se pierde en combinación con metformin

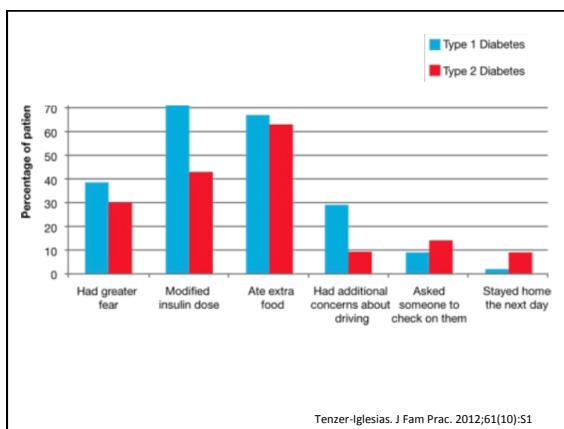
Diferencias cinéticas

- Sustrato de citocromos:
 - CYP3A4: saxagliptina
 - Interacciones con inhibidores o inductores potentes como ketoconazole

Otras diferencias

- Seguridad cardiovascular:
 - Estudios publicados: SAVOR y EXAMINE
 - Todos los demás en curso
- Terapia combinada:
 - Metformin liberación rápida: sitagliptina, vildagliptina, linagliptina
 - Metformin XR: saxagliptina

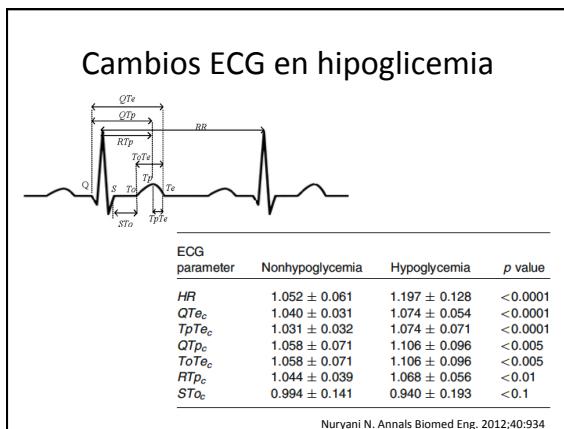
QUÉ IMPACTO PUEDE PRODUCIR LA HIPOGLICEMIA?



Otras consecuencias

- Ansiedad
- Depresión
- Uso de recursos de salud
- Costo
- Pobre adherencia a tratamiento
- Accidente automonitriz
- Fracturas

Moghissi E. Endocr Pract. 2013;19(3):526



Hipoglicemia e isquemia miocárdica

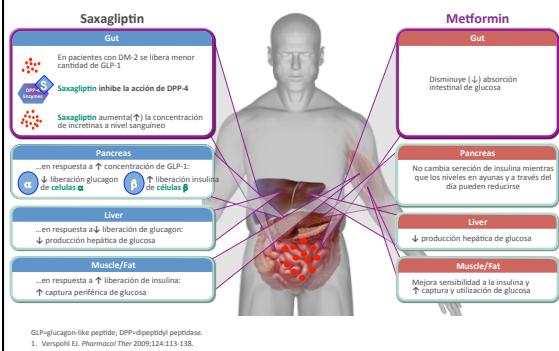
	Total episodes	Episodes with chest pain/ angina	Episodes with ECG abnormalities
Hypoglycemia	54	10*	6*
Symptomatic	26	10*	4*
Asymptomatic	28	—	2
Normoglycemia without rapid changes	N/A	0	0
Hyperglycemia	59	1	0
Rapid changes in glucose ($>100 \text{ mg} \cdot \text{dl}^{-1} \cdot \text{h}^{-1}$)	50	9*	2

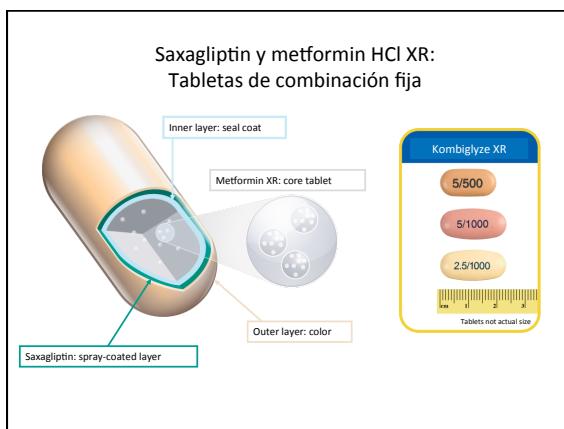
* $P < 0.01$ vs. episodes during hyperglycemia and normoglycemia.

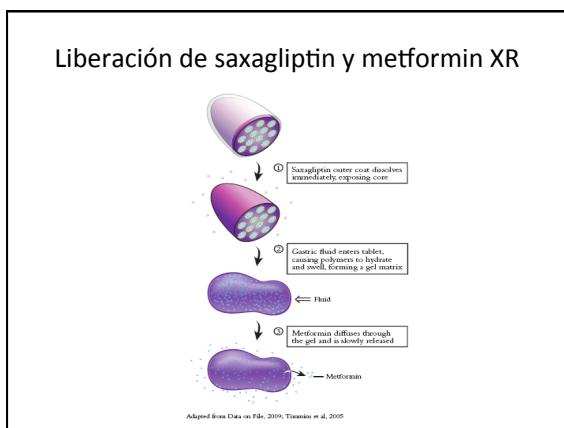
Desouza C. Diabetes Care. 2003;26:1485

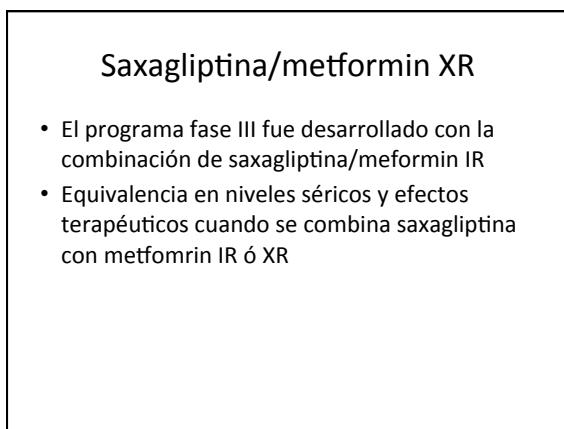
SAXAGLIPTINA/METFORMINA XR

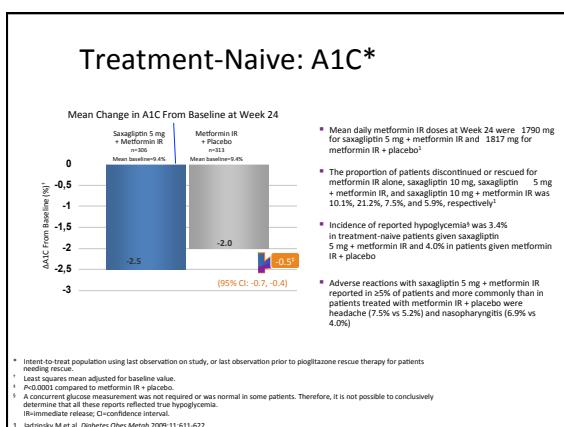
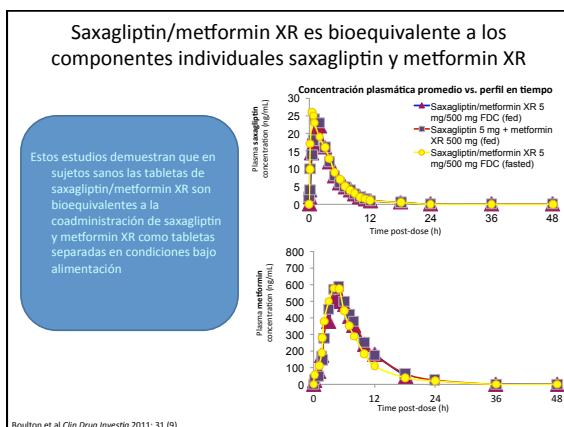
Saxagliptin/metformin XR: mecanismos de acción complementarios

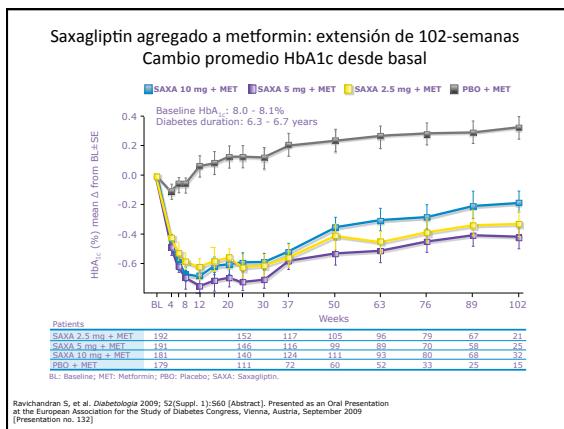
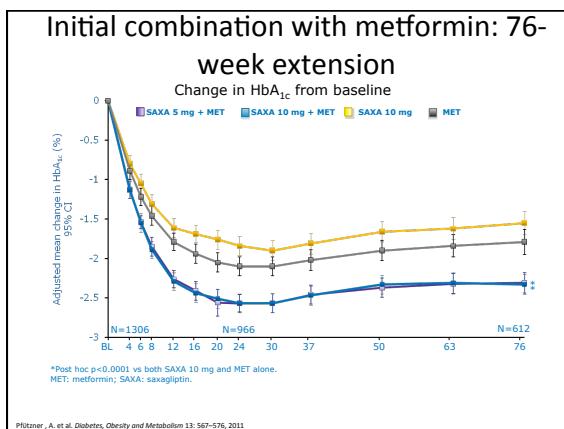


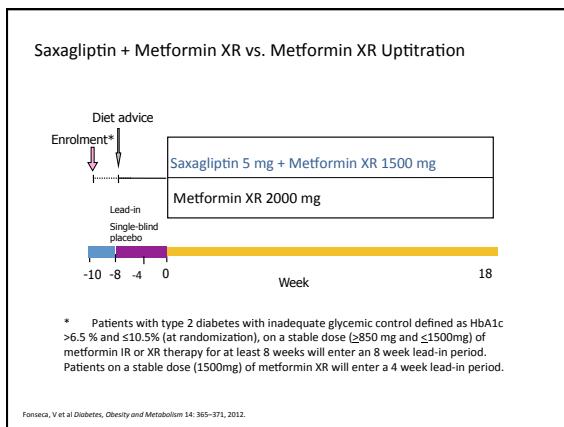
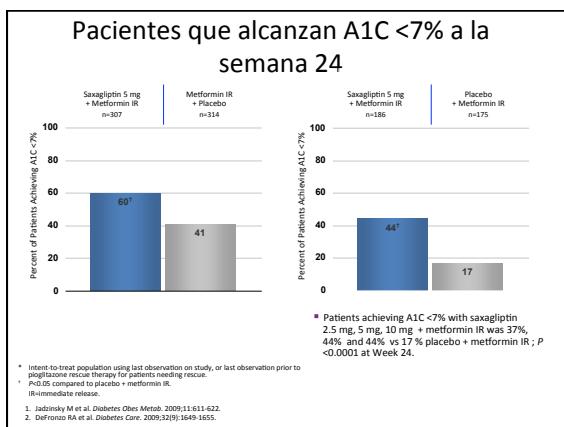


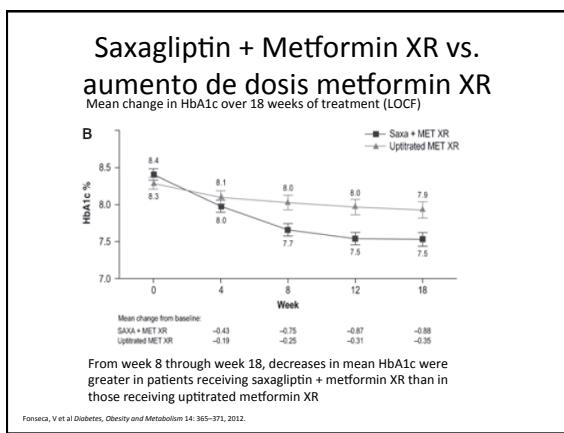
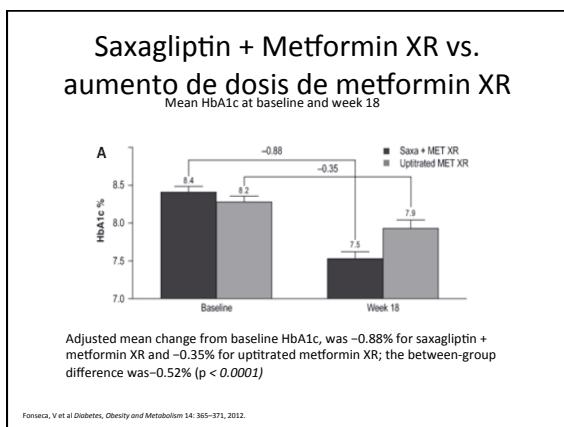


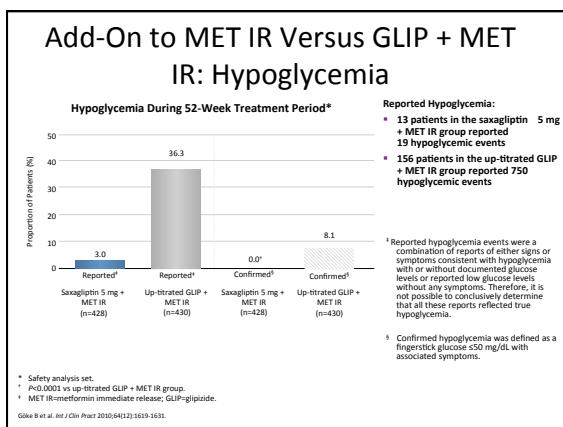
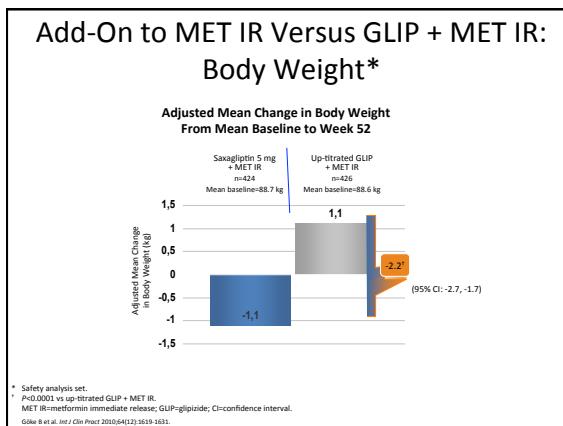
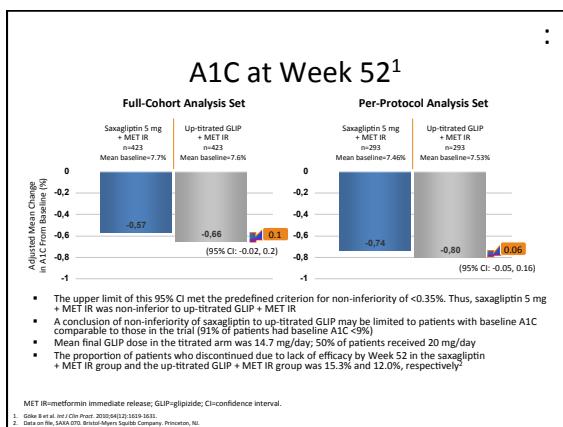












Saxagliptin + Metformin IR + Insulin

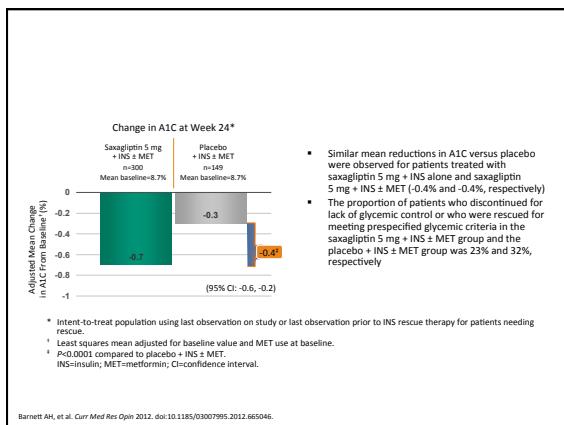
Vs Placebo + Metformin + Insulin

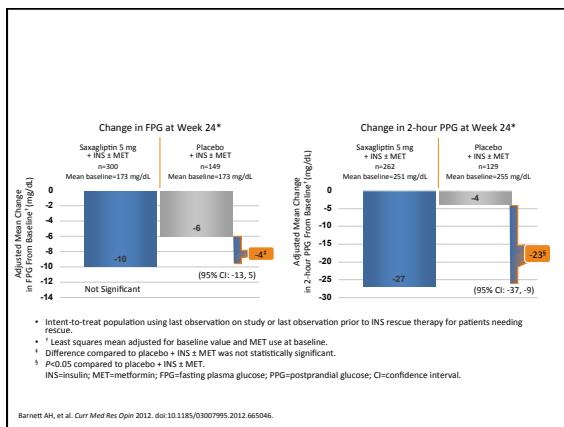
Tratamiento de tercera línea

Demographic and Baseline Characteristics (cont)

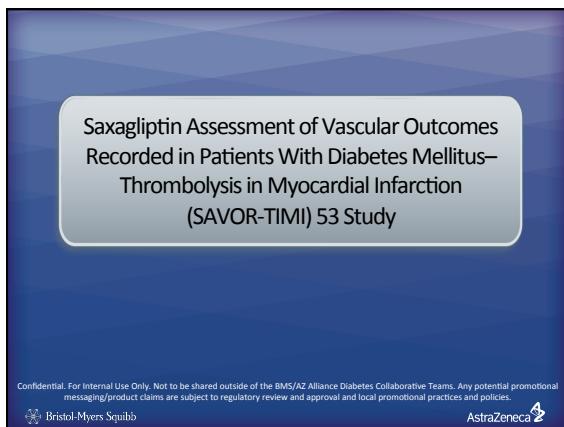
Characteristic	Saxagliptin 5 mg + INS (n=304)	MET IR + Placebo (n=151)
MTDDI, units (range)	53.6 (19–150)	55.3 (30–149)
Insulin type, n (%)		
No premixed	115 (38)	69 (46)
Intermediate acting and long acting	9 (3)	8 (5)
Intermediate acting, alone	54 (18)	32 (21)
Long-acting, alone	52 (17)	29 (19)
Any premixed	189 (62)	82 (54)
Premixed alone	182 (60)	76 (50)
Intermediate acting and premixed	4 (1)	4 (3)
Long acting and premixed	3 (1)	2 (1)
Patients taking MET, n (%)	209 (69)	105 (70)
MET dose, mean (range), mg	1805.4 (250–3000)	1861.1 (850–3000)

INS=insulin; MET=metformin; IR=immediate release; MTDDI=mean total daily dose of insulin.
Barnett AH, et al. Curr Med Res Opin 2012; doi:10.1185/03007995.2012.665046.





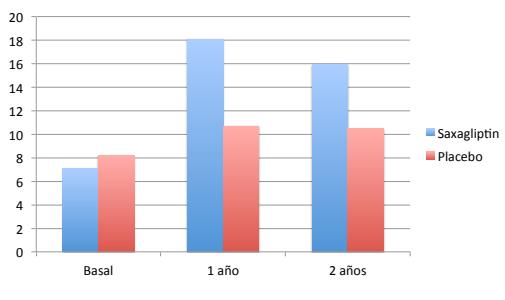
INESTABILIDAD GLICÉMICA



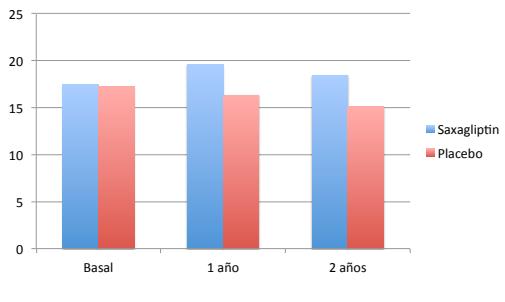
Inestabilidad glicémica

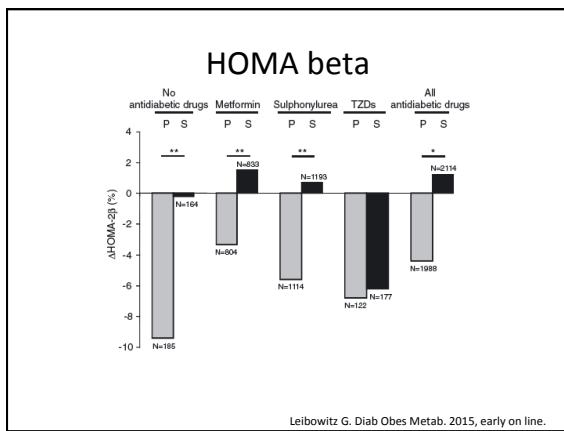
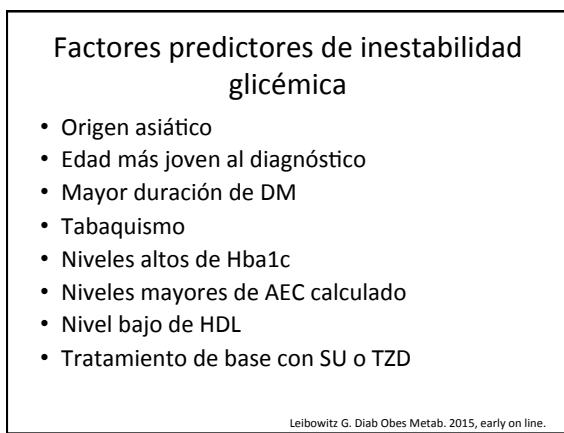
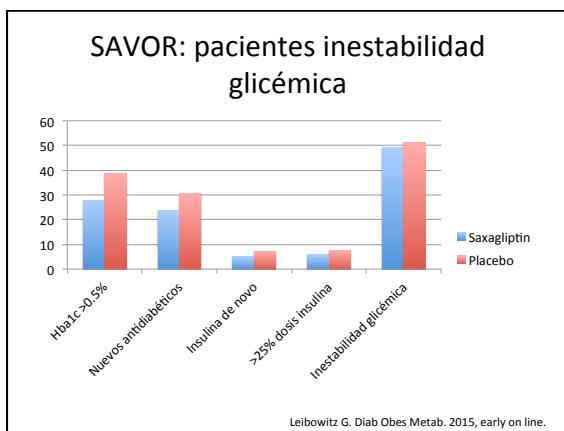
- Necesidad de agregar otro antidiabético por más de 3 meses
- Aumento de dosis de insulina >25% por más de 3 meses
- Necesidad de inicio de insulina por más de 3 meses
- Aumento de Hba1c >0.5% después de la aleatorización

SAVOR: pacientes con hba1c <6.5%

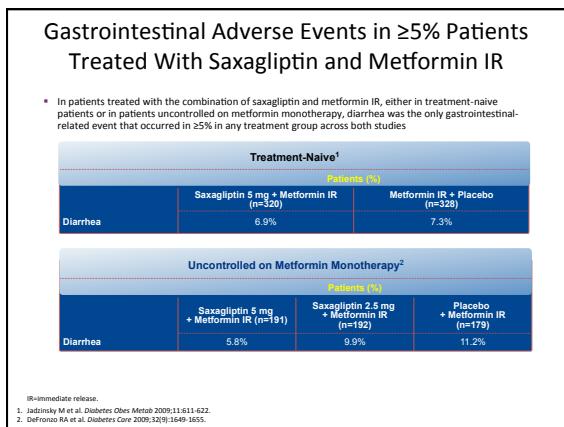
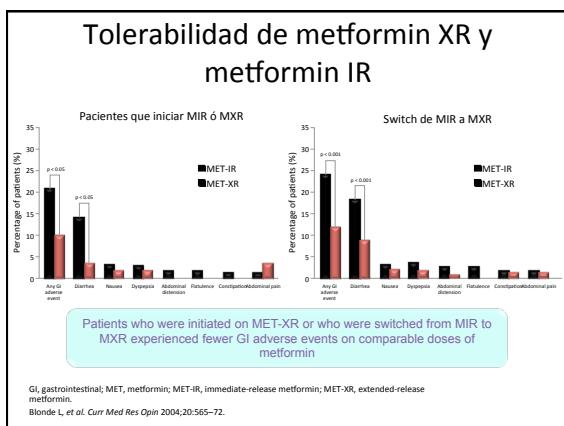


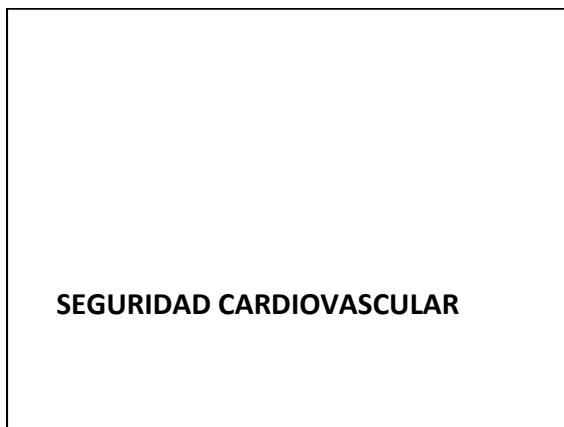
SAVOR: pacientes con hba1c 6.5-7%



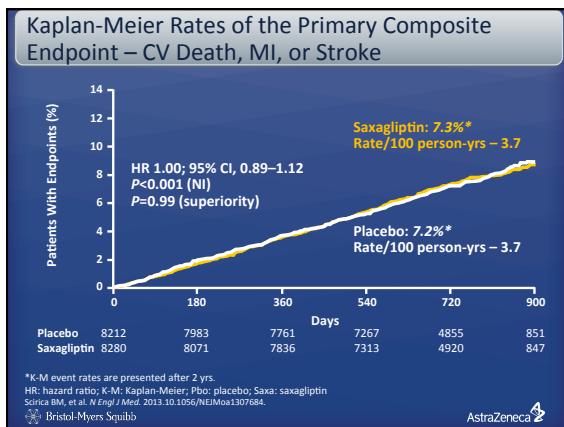
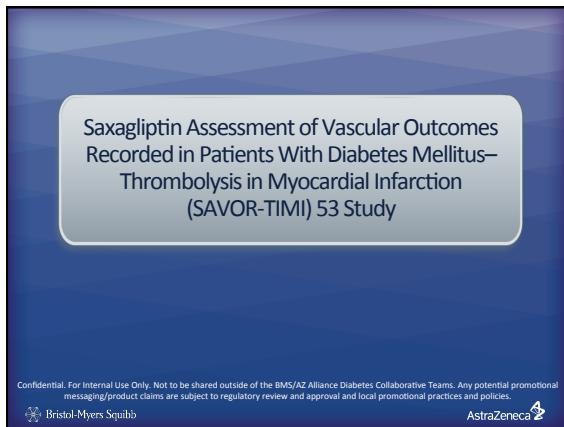


Seguridad y tolerabilidad



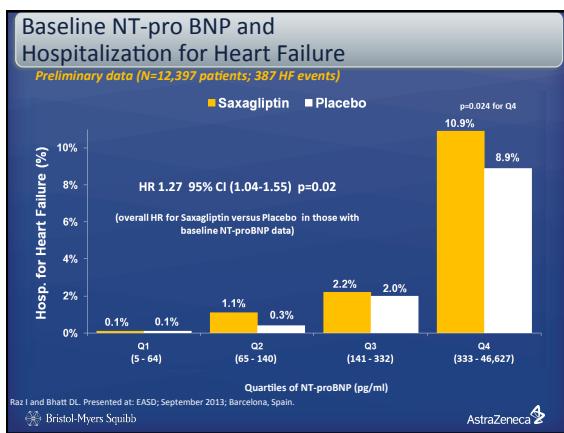


SEGURIDAD CARDIOVASCULAR



Individual Components of the Composite Endpoints				
Efficacy endpoint	Saxagliptin (N = 8,280) n (%)*	Placebo (N = 8,212) n (%)*	HR (95% CI)	P value
CV death	269 (3.2)	260 (2.9)	1.03 (0.87–1.22)	0.72
MI	265 (3.2)	278 (3.4)	0.95 (0.80–1.12)	0.52
Ischemic stroke	157 (1.9)	141 (1.7)	1.11 (0.88–1.39)	0.38
Hosp for UA	97 (1.2)	81 (1.0)	1.19 (0.89–1.60)	0.24
Hosp for HF	289 (3.5)	228 (2.8)	1.27 (1.07–1.51)	0.007
Hosp for coronary revasc.	423 (5.2)	459 (5.6)	0.91 (0.80–1.04)	0.18

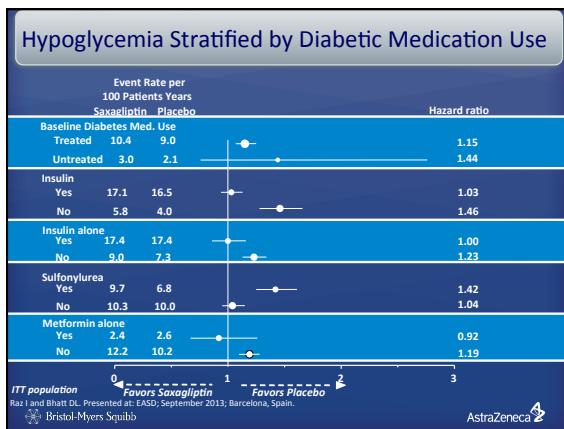
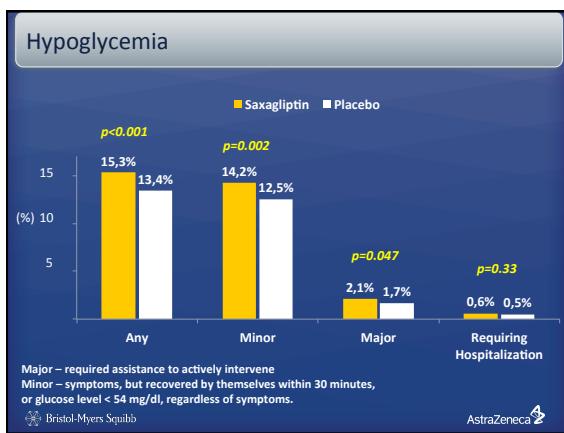
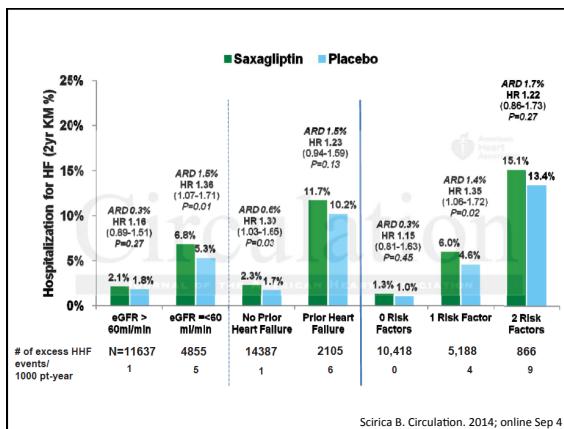
*K-M event rates are presented after 2 yrs.
Scirica BM, et al. *N Engl J Med*. 2013;368(10):911–920. doi:10.1056/NEJMoa1307684.
Bristol-Myers Squibb AstraZeneca

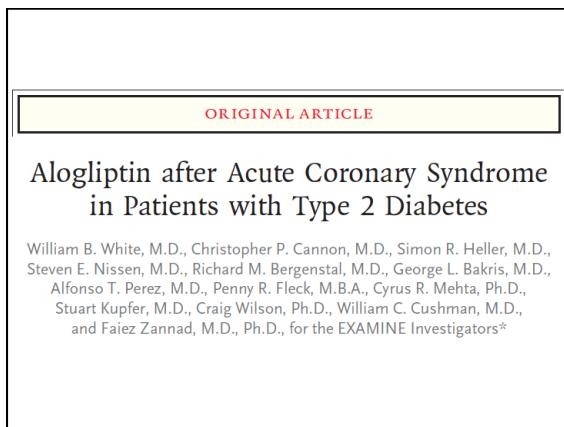


SAVOR e ICC

- Factores de riesgo:
 - Historia previa de falla cardíaca
 - AEC <60 cc/min
 - Microalbuminuria

Scirica B. *Circulation*. 2014; online Sep 4





End Point	Placebo (N = 2679)	Alogliptin (N = 2701)	Hazard Ratio for Alogliptin Group (95% CI)	P Value ^a
no. (%)				
Primary end point [†]	316 (11.8)	305 (11.3)	0.96 (\leq 1.16) [‡]	0.32
Components of primary end point				
Death from cardiovascular causes	111 (4.1)	89 (3.3)	0.79 (0.60–1.04)	0.10
Nonfatal myocardial infarction	173 (6.5)	187 (6.9)	1.08 (0.88–1.33)	0.47
Nonfatal stroke	32 (1.2)	29 (1.1)	0.91 (0.55–1.50)	0.71
Principal secondary end point [§]	359 (13.4)	344 (12.7)	0.95 (\leq 1.14) [‡]	0.26
Other end points				
Death from any cause	173 (6.5)	153 (5.7)	0.88 (0.71–1.09)	0.23
Death from cardiovascular causes [¶]	130 (4.9)	112 (4.1)	0.85 (0.66–1.10)	0.21

EXAMINE e ICC

- Análisis post hoc eliminando el punto final de muerte del punto primario
- HR de falla cardíaca 1.19 (p 0.22)
- Consideraciones:
 - Cambiaron la definición de falla cardíaca
 - Análisis post hoc
- Cuando se combinan los datos de SAVOR y EXAMINE HR 1.24 (IC 1.07-1.45)

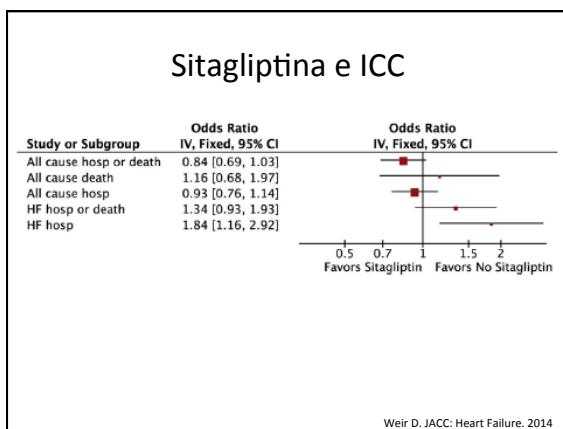
EASD Barcelona 2013

VIVIDD

- Vildagliptin in ventricular dysfunction diabetes trial
- Estudio de no inferioridad en 254 pacientes con ICC, NYHA I-III
- Aumento en volumen ventricular izquierdo telediastólico y volumen telesistólico

Sitagliptina e ICC						
Outcome	Agent	Exposed Cases/Total Exposed	Unexposed Cases/Total Unexposed	Unadjusted Odds Ratio (95% CI)	Adjusted Odds Ratio (95% CI)	p Value*
All-cause death or hospital admission	Sitagliptin	110/1,064	4,361/4,700	0.26 (0.16-0.39)	0.26 (0.16-0.39)	<0.001
	Metformin	759/0.724	3,361/4,700	0.64 (0.55-0.70)	0.78 (0.71-0.85)	<0.001
All-cause death	Insulin	800/1,149	3,337/08,205	1.37 (1.25-1.50)	1.16 (0.95-1.38)	0.004
	Sulfonylurea	673/7,710	3,464/07,714	0.94 (0.86-1.03)	1.10 (1.00-1.29)	0.043
	Other	109/1,429	4,028/44,005	0.81 (0.67-1.00)	0.95 (0.77-1.17)	0.64
	Sitagliptin	19/224	389/4,193	0.73 (0.45-1.18)	1.16 (0.68-1.97)	0.59
	Metformin	66/1,530	342/2,937	0.33 (0.25-0.44)	0.52 (0.37-0.70)	<0.001
	Insulin	142/1,411	266/3,056	1.18 (0.95-1.47)	1.11 (0.84-1.47)	0.46
	Sulfonylurea	73/1,247	335/3,220	0.53 (0.41-0.69)	0.83 (0.61-1.14)	0.25
	Other	13/216	395/4,253	0.63 (0.36-1.12)	0.87 (0.46-1.63)	0.66
All-cause hospital admission	Sitagliptin	112/1,489	3,964/43,274	0.80 (0.6-0.98)	0.93 (0.76-1.14)	0.46
	Metformin	250/10,556	3,326/34,207	0.65 (0.59-0.71)	0.79 (0.71-0.87)	<0.001
HF-related hospital admission or death	Sitagliptin	31/1,064	1,040/4,700	1.14 (0.94-1.34)	1.14 (0.94-1.34)	0.1
	Metformin	154/2,556	932/70,025	0.53 (0.44-0.64)	0.70 (0.57-0.86)	0.001
HF-related hospital admission	Insulin	217/2,126	929/70,455	1.20 (1.01-1.42)	1.03 (0.84-1.24)	0.81
	Sulfonylurea	156/2,063	990/70,518	0.76 (0.63-0.92)	0.92 (0.75-1.13)	0.41
	Other	21/200	1,125/2,279	0.74 (0.47-1.16)	0.85 (0.53-1.36)	0.50
	Sitagliptin	25/200	799/8,862	1.47 (0.95-2.27)	1.84 (1.16-2.92)	0.01
	Metformin	106/1,378	718/7,684	0.76 (0.60-0.96)	0.87 (0.66-1.12)	0.28
	Insulin	113/1,114	717/7,948	1.19 (0.94-1.45)	0.97 (0.75-1.27)	0.83
	Sulfonylurea	103/1,067	721/7,995	1.09 (0.86-1.39)	1.11 (0.84-1.45)	0.47
	Other	14/147	810/8,905	0.98 (0.56-1.72)	1.08 (0.59-1.96)	0.81

Weir D. JACC: Heart Failure. 2014



Análisis

- Con estos datos e ICC
 - Saxagliptina: SAVOR
 - Alogliptina: EXAMINE
 - Vildagliptina: VIVIDD
 - Sitagliptina: estudio de Weir et al
- Será un efecto de clase?
- A la espera de TECOS y CAROLINA
- Conducta actual

SEGURIDAD PANCREÁTICA

Pancreatitis

- SAVOR y EXAMINE evaluaron de forma prospectiva y de manera predefinida la incidencia de pancreatitis. No diferencias significativas.
- EMA y FDA se pronunciaron en cuanto a seguridad en riesgo de pancreatitis
- No hay datos suficientes para afirmar que hay aumento en riesgo de cáncer de páncreas

Conclusiones

- Los inhibidores de DPP-4 en general son una clase donde es difícil diferenciar entre los agentes
- Saxagliptin/metformin XR es la única formulación combinada que permite administrarlo una vez al día
- Falta de adherencia se asocia a mayor morbilidad
- Precaución en pacientes con historia de falla cardíaca, insuficiencia renal o proteinuria

Preguntas...

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