síndrome metabólico ¿mito o realidad?

Controversia Actual sobre SM

PEDRO CONTHE
Enero de 2006

No Historia del SM
(GM 1920 – 2006)
No Tablas de Criterios SM
(OMS,ATP-III, IDF / RI – EGIR)
No Epidemiología
(% variable de SM)
No Fisiopatología del SM

SM Controversias actuales

Metabolic Syndrome/Insulin Resistance Syndrome/Pre-Diabetes

ORIGINAL ARTICLE

Diabetes Care Nov 2004

Does the Metabolic Syndrome Improve Identification of Individuals at Risk of Type 2 Diabetes and/or Cardiovascular Disease?

Michael P. Stern, MD[1]
Ken Williams, MS[1]
Clicerio González-Villalpando, MD[2]
Kelly J. Hunt, PhD[1]
Steven M. Haffner, MD[1]

The metabolic syndrome has been promoted recently as a method of identifying individuals at increased risk of both type 2 diabetes and cardiovascular disease (CVD). This syndrome, first described in 1988 by Reaven (1),

Metabolic Syndrome

In search of a clinical role

The concept of a "metabolic syndrome" conferring increased risk of incident type 2 diabetes and cardiovascular disease (CVD) has been around

Organization [WHO] criteria in a secondary analysis available in an online appendix) and to calculate the probability of developing diabetes (using the Diabetes

the false-positive rate was fixed at 34%, the true-positive rate for CVD was 81%. The aROC of the Diabetes Predicting Model was 0.819, and considering both

The Metabolic Syndrome: Time for a Critical Appraisal

***Diabetes Care*. 2005; 28: 2289-2304**

Joint statement from the American Diabetes Association and the European Association for the Study of Diabetes

Richard Kahn, PhD[1]
John Buse, MD, PhD[2]
Ele Ferrannini, MD[3]
Michael Stern, MD[4]

Clinical Chemistry 51:6
931–938 (2005)

Review

The Metabolic Syndrome: Requiescat in Pace

GERALD M. REAVEN

Values for insulin-mediated glucose disposal vary continuously throughout a population of apparently healthy individuals, with at least a sixfold variation

this phenomenon, I cite 14 articles *(3–16)* that represent a small sample of those published on this topic in 2004; they were based primarily on retrospective analyses of popu-

Síndrome metabólico

- ✓ **Ausencia "nexo patogénico comun"** (factores causa/efecto de RI)

  ***Obesidad no es una consecuencia de la R.I.**

- ✓ **Peso relativo de los componentes**

  – Límites cualitativos arbitrarios –

T.A.: no > 50% de HTA tienen R.I.
valor predictivo riesgo y terapeútico probado

Lípidos (2 criterios):
¿papel independiente de Tg?
objetivo terapeútico HDL / Tg

GBA: Solo minoría de pacientes tiene este criterio ¿ o mejor IHC ?.

Obesidad: Utilidad práctica del P.Abdominal vs IMC no esclarecido
¿límites establecidos?

síndrome metabólico

¿Cómo predictor preciso de riesgo?

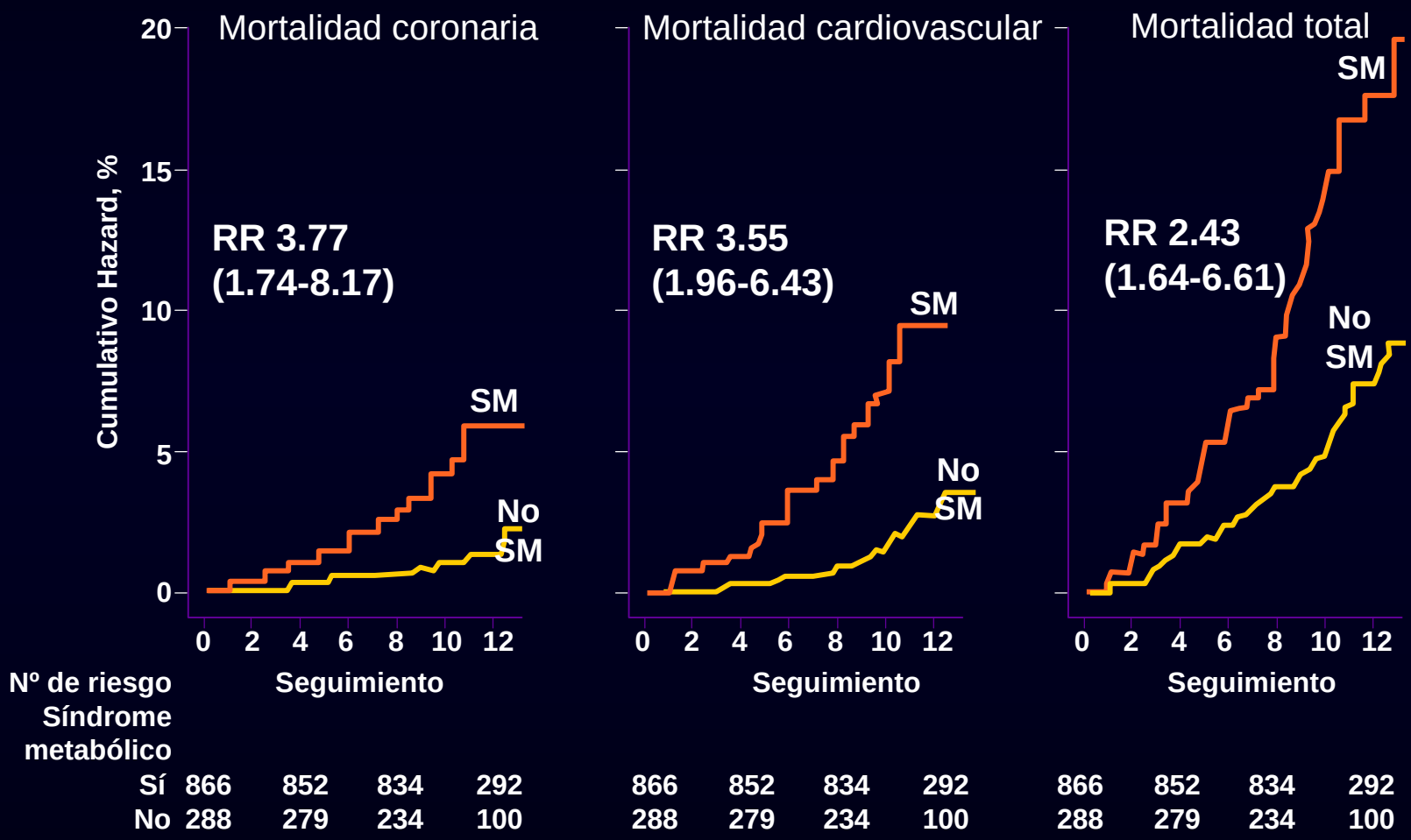
MORTALIDAD ASOCIADA AL SÍNDROME METABÓLICO (ANÁLISIS DE REGRESIÓN LOGÍSTICA)

Estudio Botnia	*ECV* (n = 2.401)		*IAM* (n = 2.404)		*ACV* (n = 2.395)	
Variables independientes	RR	P	RR	P	RR	P
*SM**	2.96	<0.001	2.63	<0.001	2.27	<0.001
Obesidad	1.44	0.07	1.31	0.43	1.26	0.59
Dislipemia	1.73	<0.001	1.71	0.01	1.30	0.40
HTA	1.57	0.002	1.31	0.22	1.34	0.34
Microalbuminuria	0.94	0.77	0.76	0.37	0.85	0.73
RI	1.53	0.01	2.02	0.009	1.39	0.36

Mortalidad 12% vs 2.2%

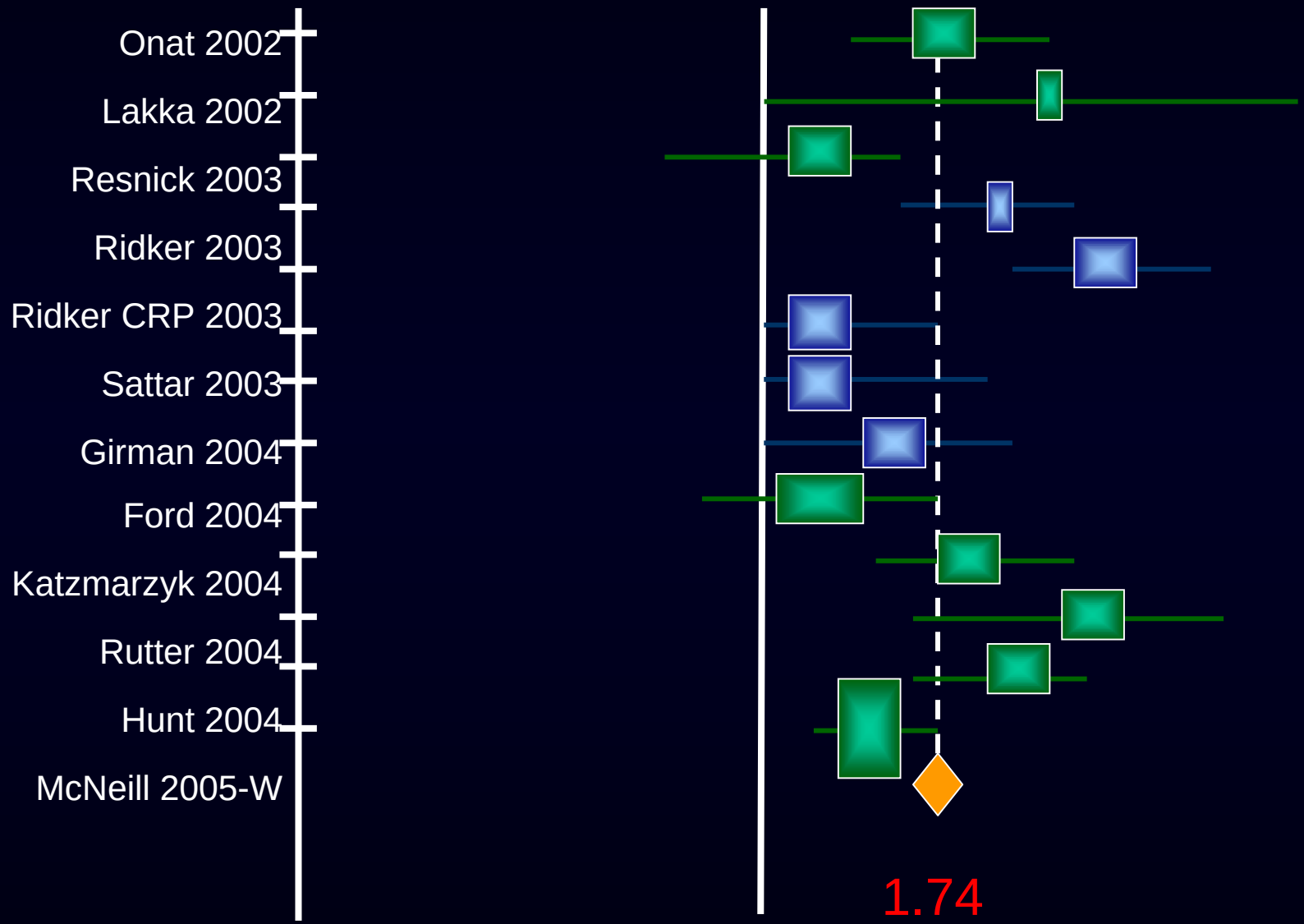
Isomaa. *Diabetes Care*. 2001; 24: 683-689

Síndrome metabólico y mortalidad



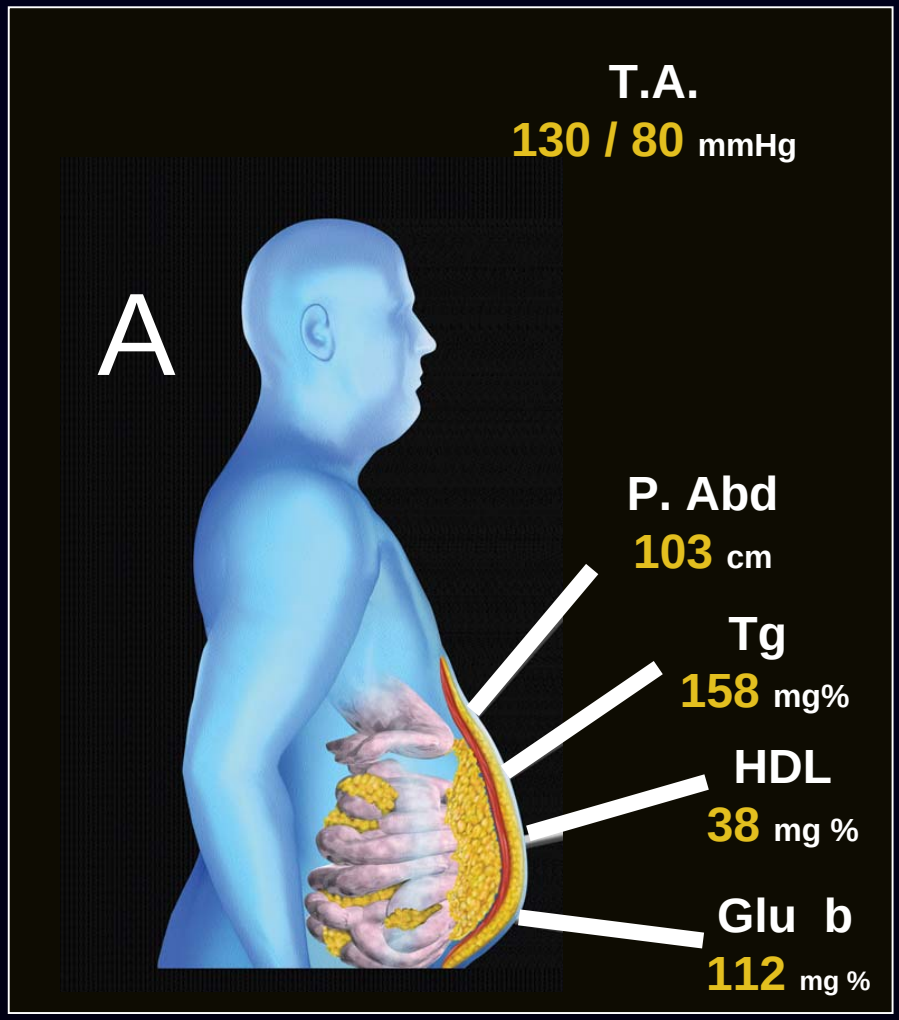
Lakka et al. JAMA 2002;288:2709-16

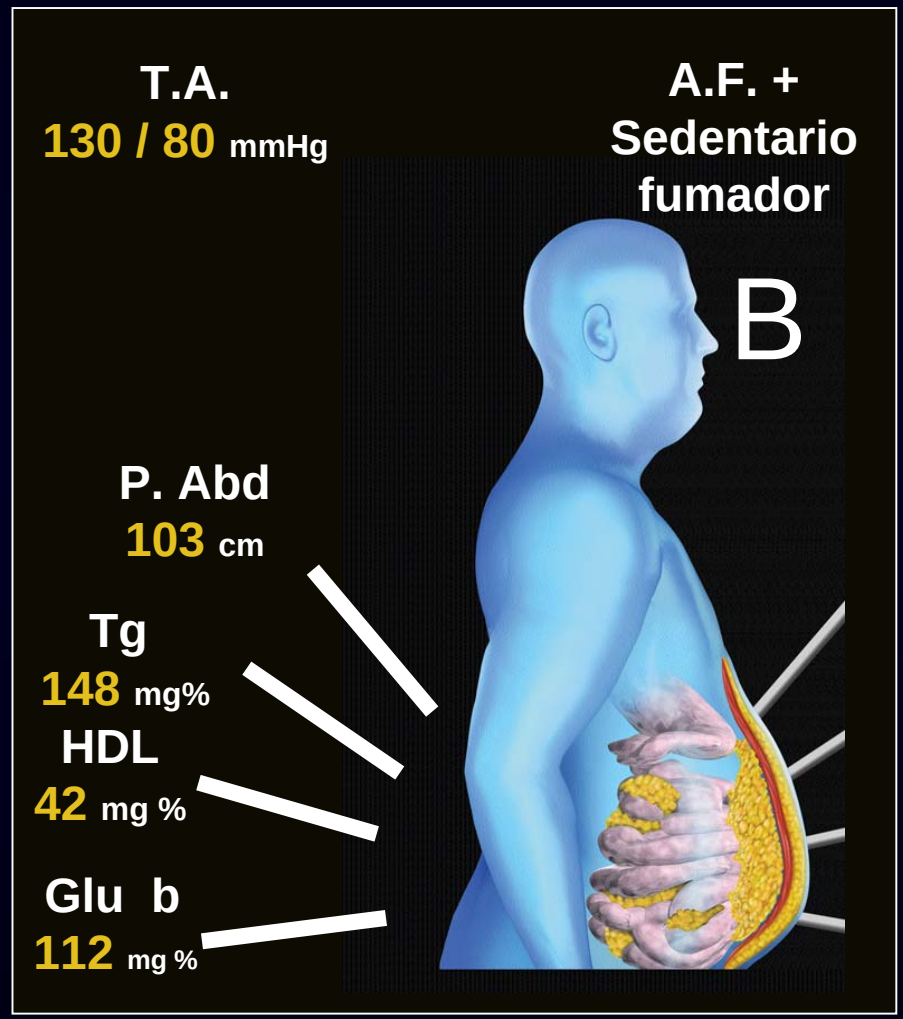
ASOCIACIÓN: SM (ATP III mod.) Y ECV



ES Ford. *Diabetes Care*. 2005; 28: 1769-1778

S.M. ¿predictor preciso de riesgo?





Factores BÁSICOS de Riesgo a considerar

- Tabaco
- Edad (V > 55 a. M > 65 a.)
- Dislipemia (Colesterol T , LDL)
- Hª familiar de enfermedad CV precoz
- PCR > 1 mg/dl
- MAU.....sedentarismo.....

Complementario con "SCORE" de riesgo

síndrome metabólico

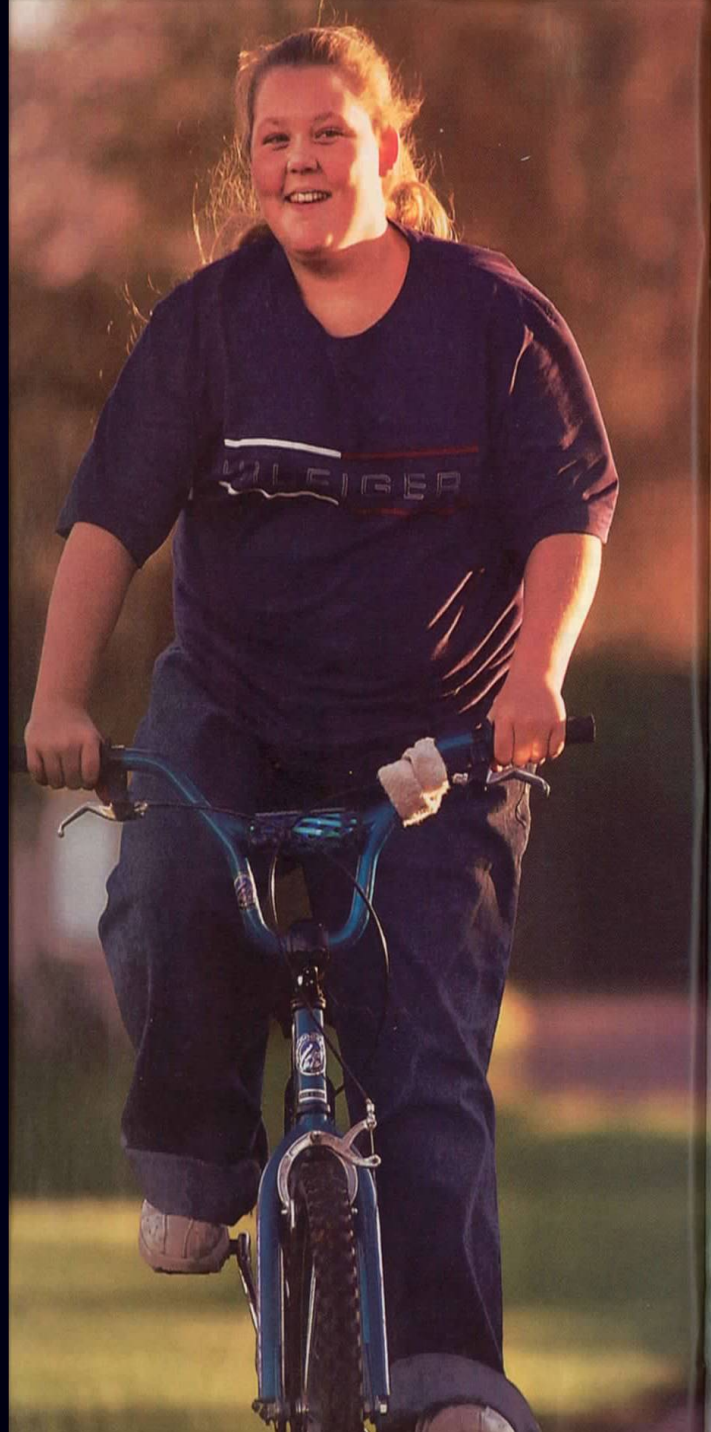
¿Población homogenea en riesgo?

síndrome metabólico

¿Enfermedad Comunitaria?

síndrome metabólico

Centrando la actuación en Estilo de Vida



WHY SO MANY OF US ARE GETTING DIABETES

Never have doctors known so much about how to prevent or control this disease, yet the epidemic keeps on raging. How you can protect yourself

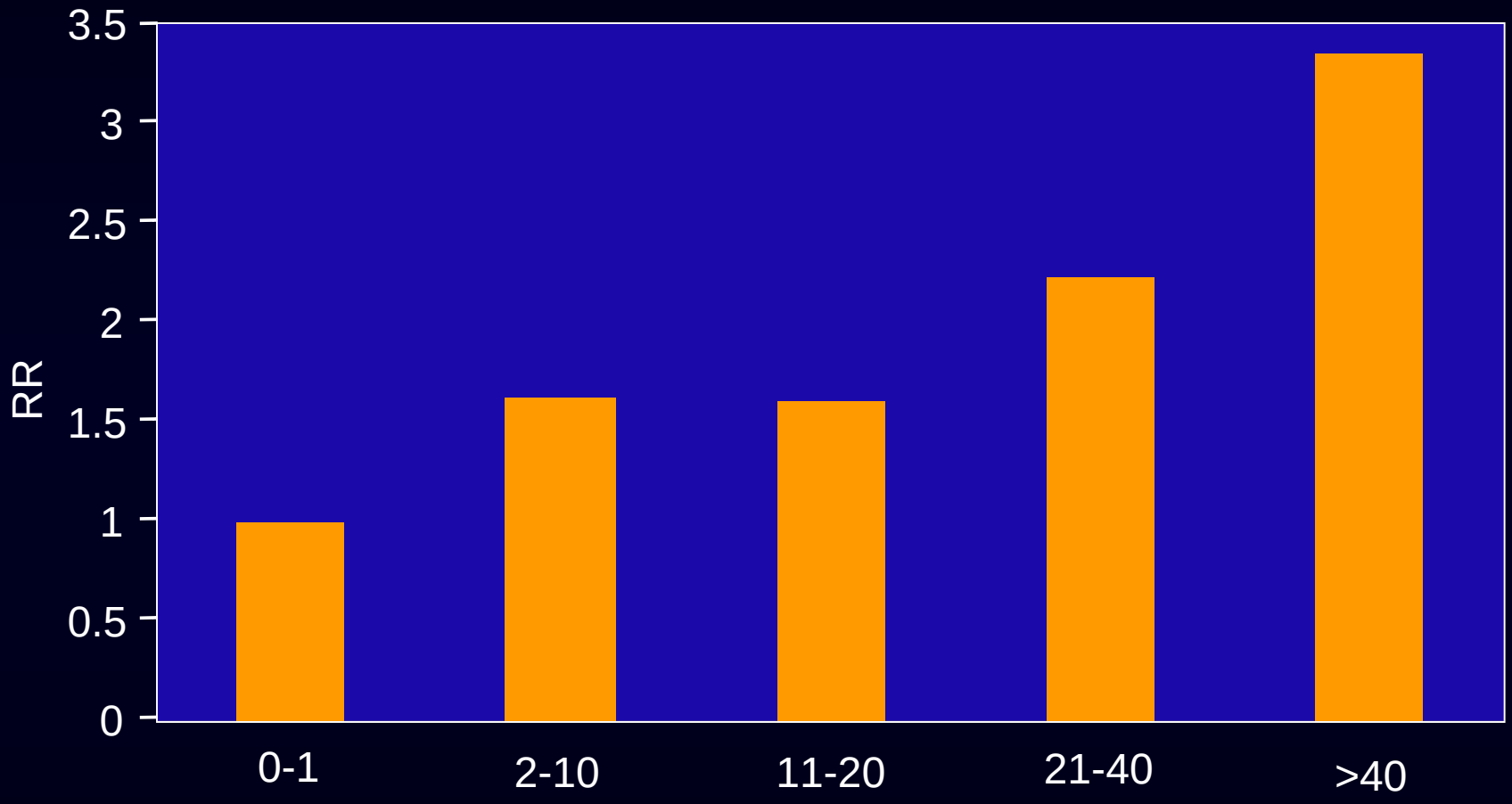
By CHRISTINE GORMAN

HILLARY CARROLL KNEW SOMETHING WAS AMISS. SHE had spent Memorial Day happily frolicking in her grandmother's swimming pool, but by that evening she was doubling over in pain every time she went to the bathroom. Her mother figured it was probably an infection and the next day took Hillary, then 10, to the pediatrician. Instead of getting a prescription for an antibiotic, however, the 220-lb. youngster was immediately admitted to the hospital. Lab tests showed that she had something far more serious—Type 2 diabetes.

Hillary is not the first overweight child to learn she has this form of diabetes, a chronic metabolic disorder that used to be called adult onset but was renamed in part because so many kids Hillary's age were getting it. As doctors have repeatedly warned, the U.S. is experiencing a diabetes epidemic. Some 18 million Americans suffer from one form or another, with 1.3 million new cases diagnosed last year—up from 878,000 in 1997. And although Type 2 diabetes still tends to strike

Tiempo delante del televisor y el riesgo de diabetes tipo 2

Estudio de seguimiento de 37.918 profesionales sanitarios, 1986-1996



Physical activity and television watching in relation to risk for type 2 diabetes mellitus in men. Hu F. *Arch Intern Med.* 2001; 161:1542-1548.

síndrome metabólico

Papel Central de la Obesidad

Prevalencia del Síndrome Metabólico según la ATP III

NHANES III

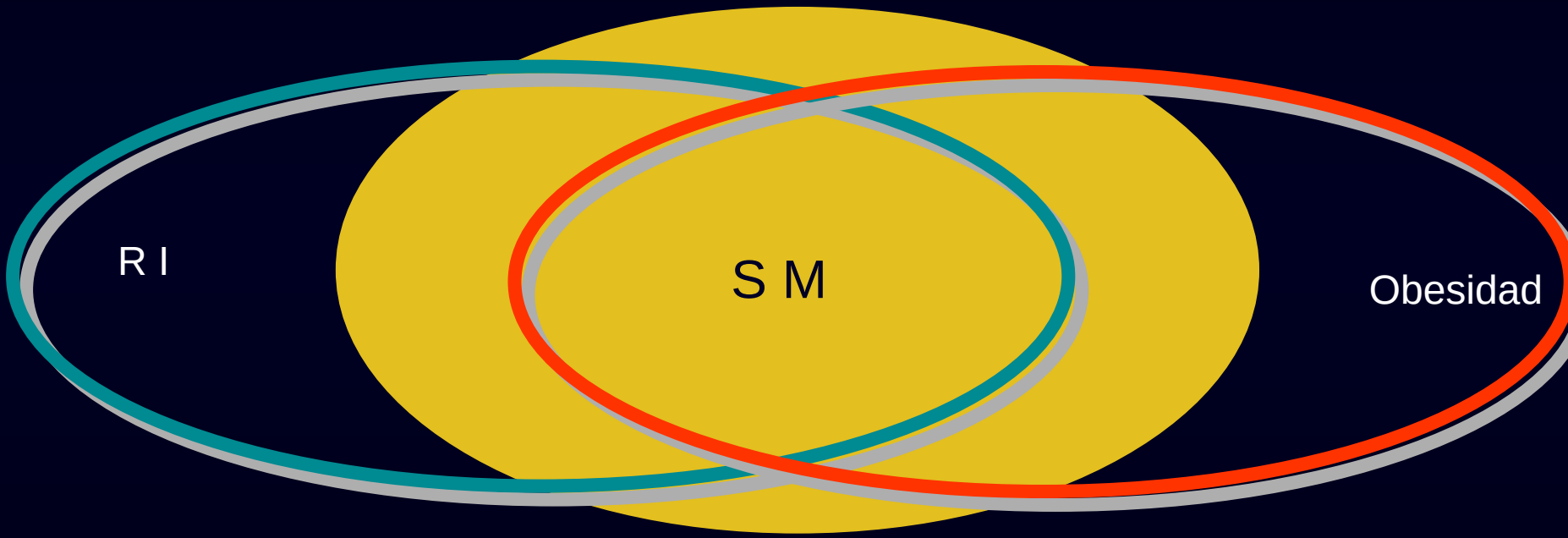
peso	IMC (Kg/m2)	varón	mujer
normal	< 25	4.6%	6.2%
sobrepeso	25.0-29.9	22.4%	28.1%
Obesidad	> 30	59.6%	50.0%

Park YW: Arch Intern Med 2003: 163. 427

SM ¿ Obesidad o R Insulínica ?

OMS
EGIR

ATP-III
IDF



Intolerancia a la glucosa o DM tipo 2
y/o Resistencia a la Insulina*

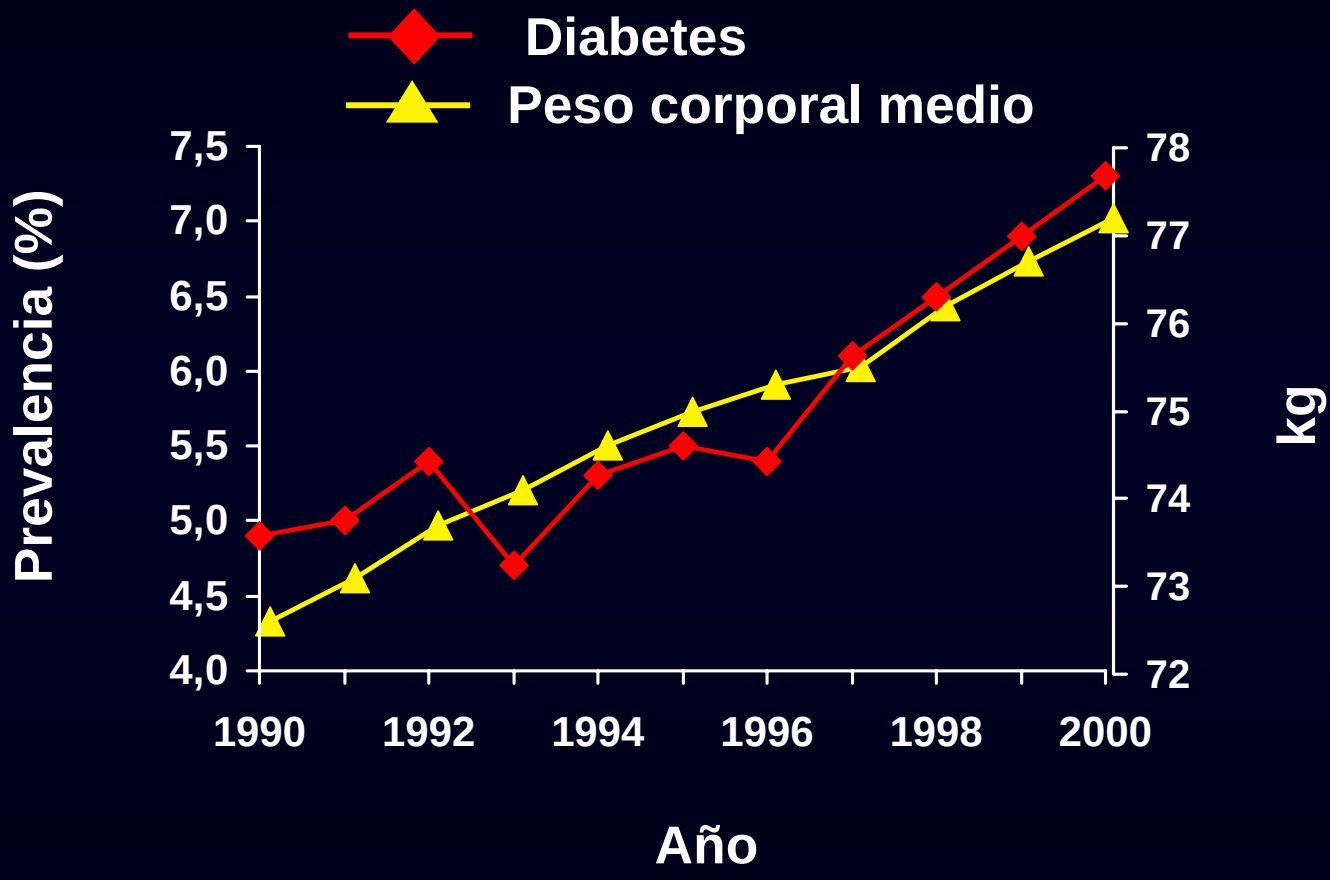
MAU

HOMA (Homeostasis Model Assesment). Cuartil superior.
Insulina basal (uU/ml) x glucosa basal (mmol/l)/22.5

Obesidad abdominal

hombres >102 cm
mujeres > 88 cm.

Relación Obesidad - DM

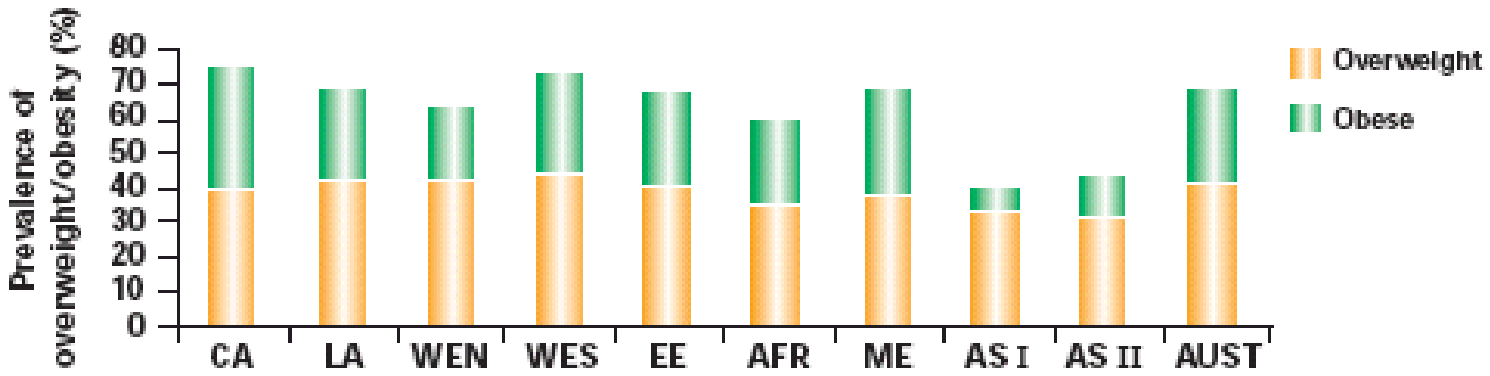


Caballero AE. Obes Res. 2003; 11:1278-1289

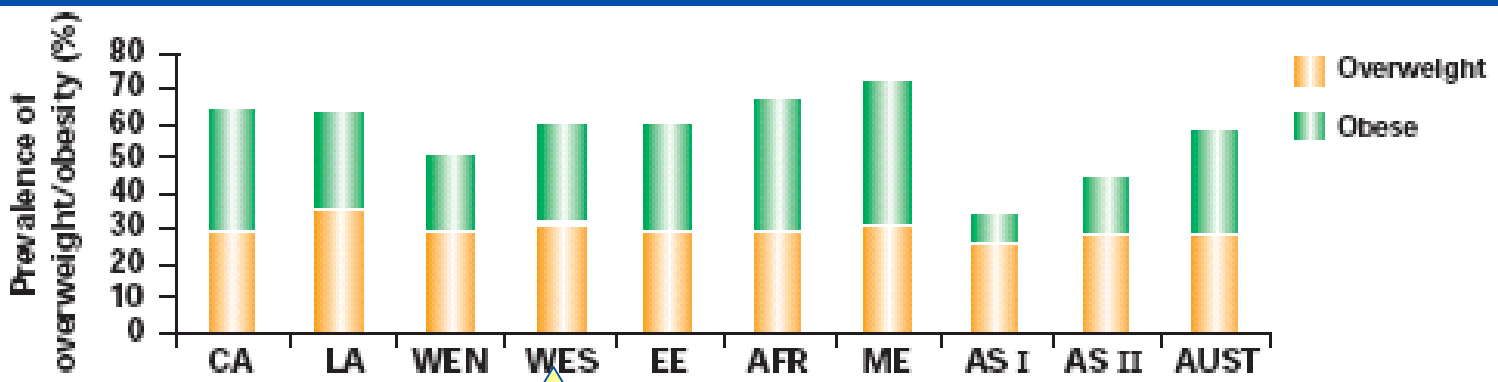
IDEA: Annual Scientific Meeting of NAASO

North American Association for the Study of Obesity Oct 05

Prevalencia de SobrepesoIMC 25a30, y Obesidad IMC >30 en varones



Prevalencia de SobrepesoIMC 25a30, y Obesidad IMC >30 en mujeres

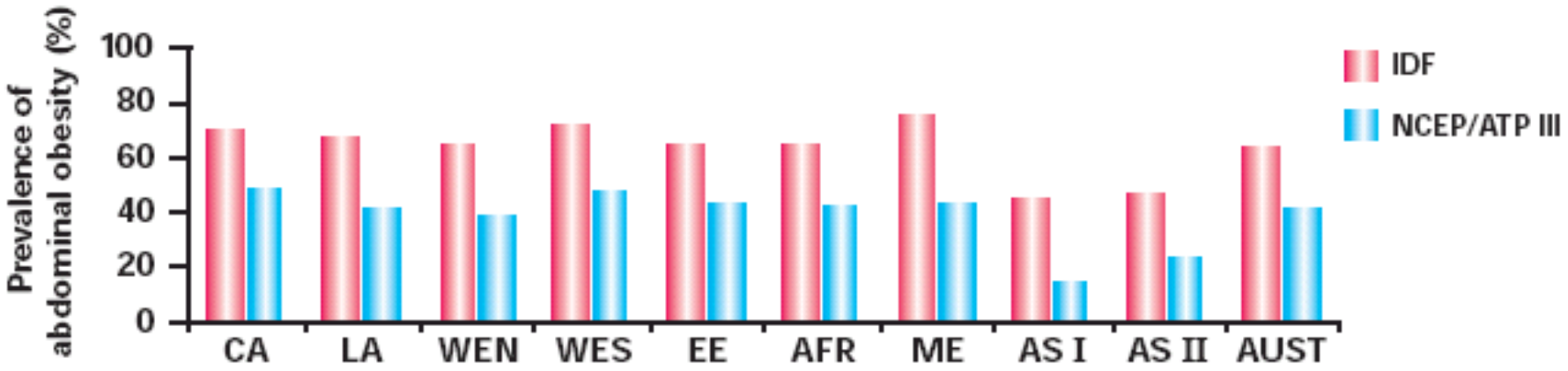


157, 211 pacientes
63 paises

ESPAÑA

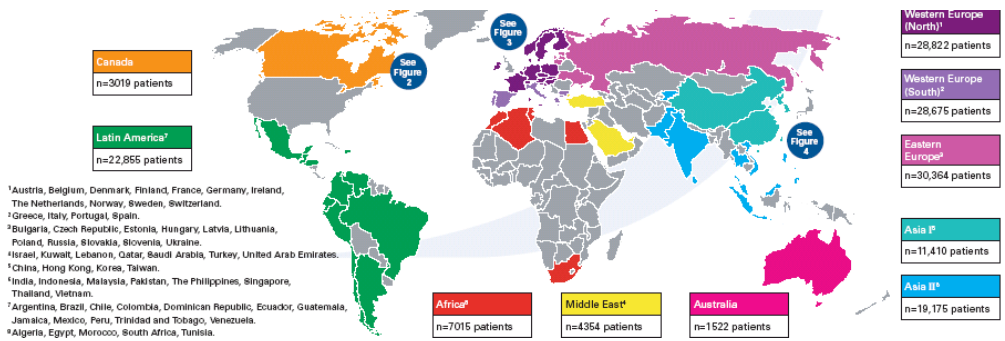
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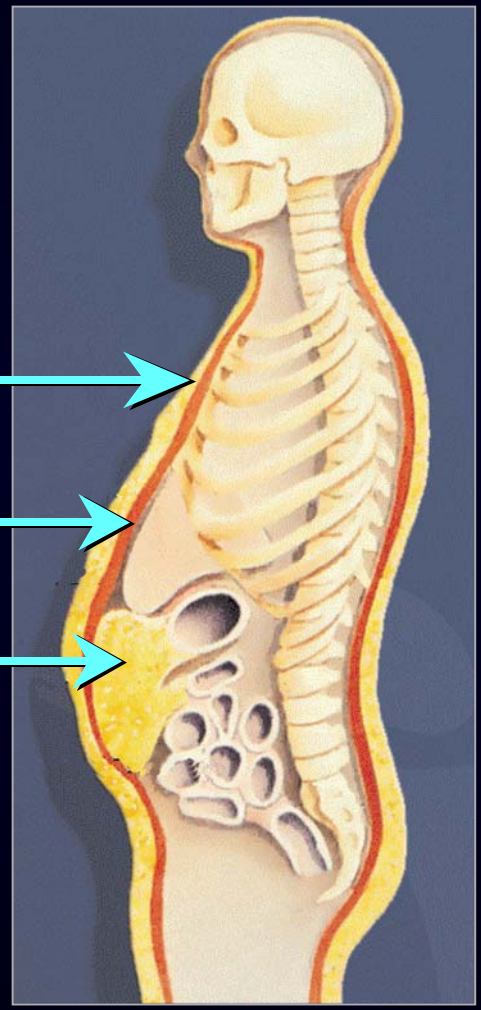
Adiposidad visceral

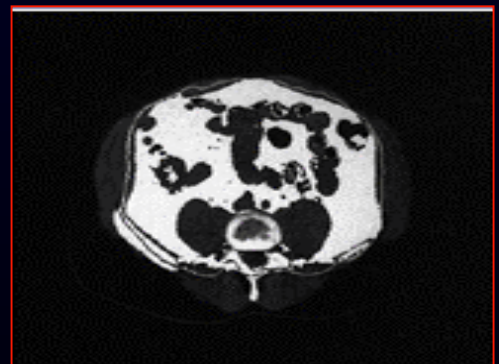


Grasa subcutánea

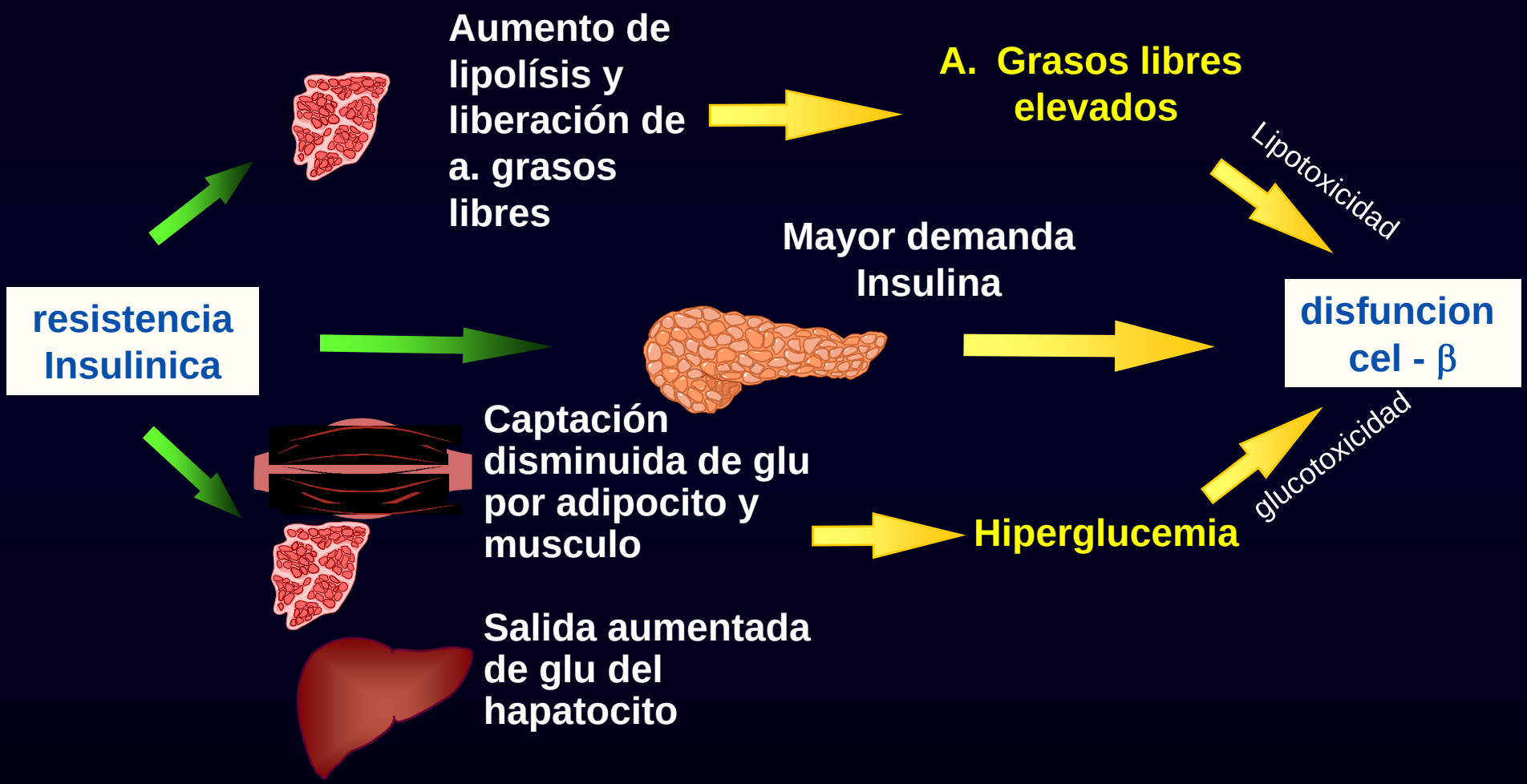
Capa muscular abdominal

Grasa intra-abdominal

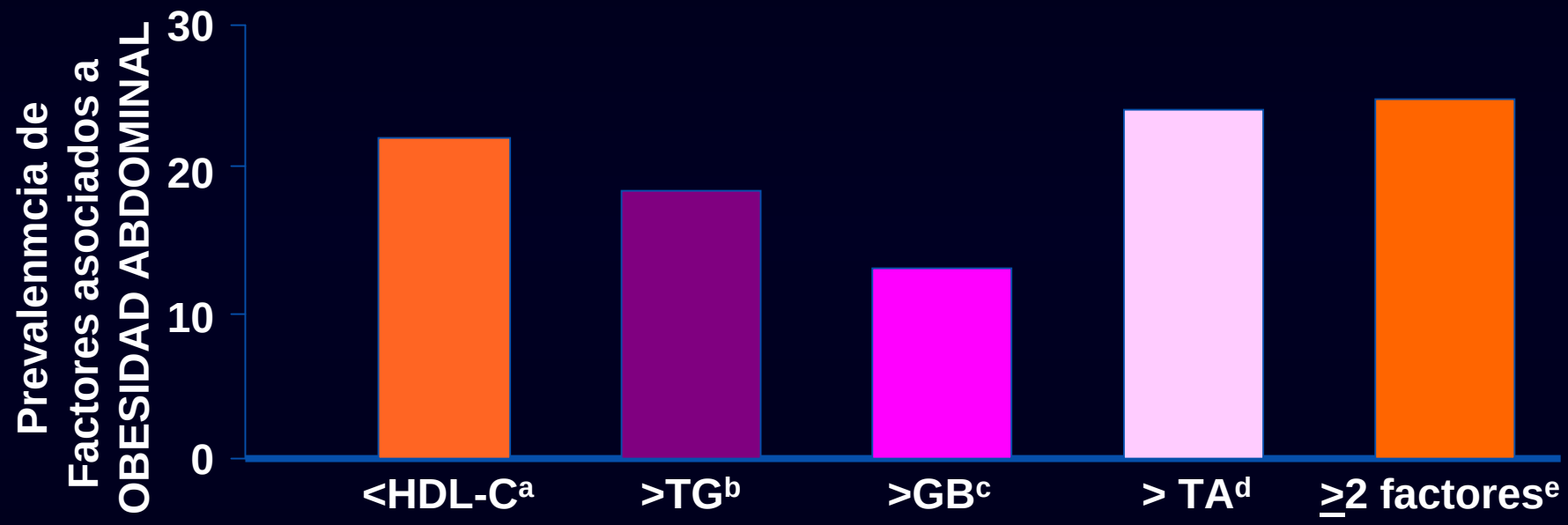




Resistancia Insulínica y disfunción de la cel -β



Obesidad Abdominal se asocia a F. de Riesgo CV



[a]<40 mg/dL (men) or <50 mg/dL (women); [b]>150 mg/dL; [c]>110 mg/dL; [d]>130/85 mmHg; [e]NCEP/ATP III metabolic syndrome

NHANES 1999–2000

Mayores Virtudes del concepto SM

- **Simplicidad en su detección " riesgo inadvertido"**
- **Centrar problema comunitario en Obesidad Abdominal y en su prevención**
- **Tto no Farmacológico Síndrome ESTILO de VIDA**
- **Predictor de aparición de DM y Enf CV**
  (Complementario con "SCORE" de riesgo)
- **Estimular conocimiento "adipocito endocrino"**

Mayores Problemas del concepto SM

- **Heterogeneidad de la población SM**
- **Menor predicción de riesgo que suma de componentes individuales "cuantitativos"**
- **Diferente peso de los componentes individuales "cualitativos"**
- **No patogenia común ni tratamiento específico**
- **Imagen popular del "síndrome"**