OSTETRICIA e GINECOLOGIA 2017

"RICONOSCERE I RISCHI ASSOCIATI ALL'OBESITA"

Ferrara 19 maggio 2017

Menopausa e B.M.I. stima del rischio e prevenzione. Ruolo della MHT.

C. Battaglia

Università di Bologna

Overweight: BMI = 25-29.9 Kg/m^2
Obesity: BMI ≥ 30 Kg/m^2

World-wide, the prevalence of obesity has more than doubled since 1980

In 2008, 1.5 billion adults were overweight: including both developed and developing countries.

Of these, more 200 million men and nearly 300 million women are obese

The Healthy Survey for England 2011 showed that:
51% of women aged 35-44 yrs are overweight/obese if compared with 69% aged 55-64 yrs

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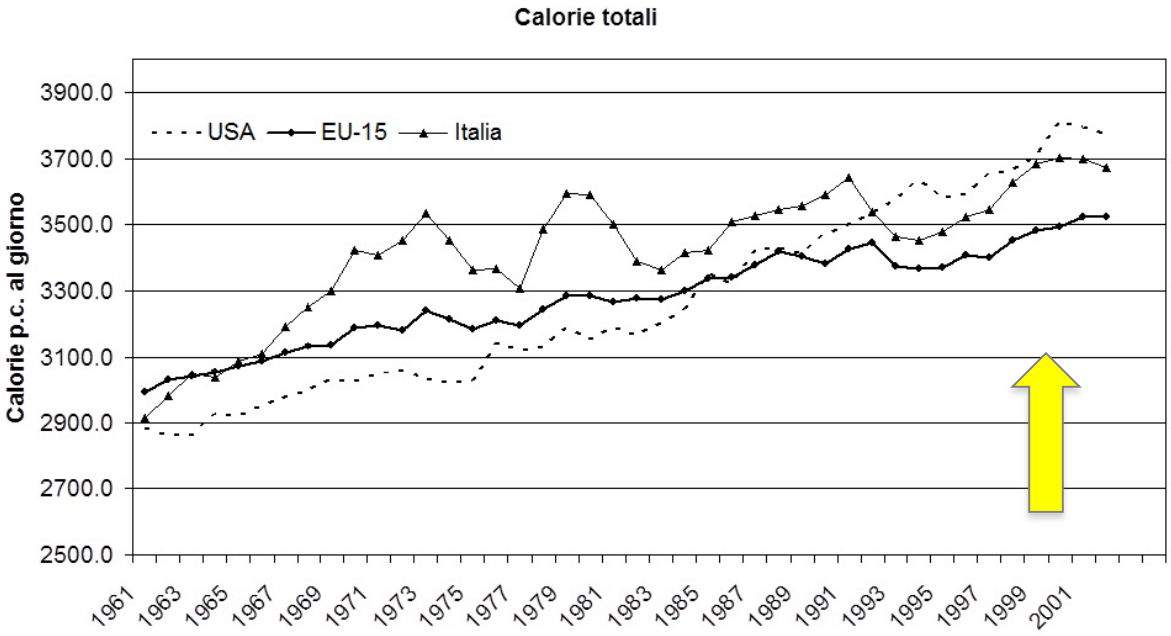
Overweight/Obesity is a major risk factor for:
Diabetes, hypertension, cardio and cerebro-vascular pathologies, endometrial/breast/colon cancer, urinary incontinence, ostheoartritis.

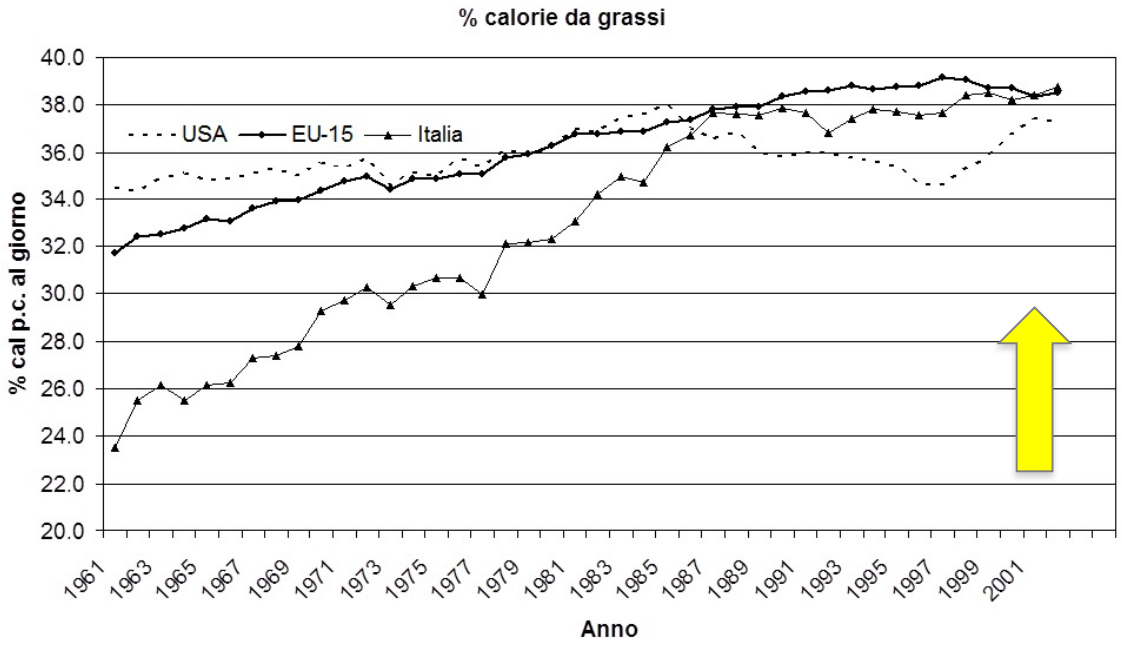
The Healthy Survey for England 2011 showed that:
51% of women aged 35-44 yrs are overweight/obese if compared with 69% aged 55-64 yrs

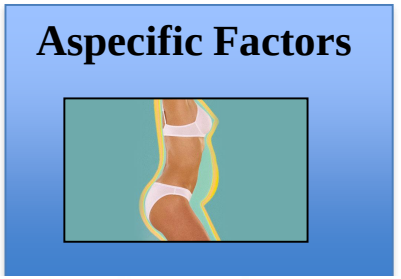
Aspecific Factors

Age Related

Menopausal Related







Attenti alle calorie vuote...

Formaggio (esempio 50 grammi di stracchino a fine pasto)	150
Bibite gassate zuccherate (esempio cola da 330 ml)	129
Birra (esempio una birra da 330 ml a 4,5 gradi alcolici)	100
Biscotti farciti (esempio due biscotti da 20 grammi)	100
Olio (esempio un cucchiaio da 10 grammi)	90
Vino (esempio un bicchiere da 125 ml a 12 gradi alcolici)	84
Dolci (esempio un cioccolatino da 15 grammi)	80
Snack (esempio 5 salatini da 16 grammi)	79
Arachidi (esempio una porzione da 10 grammi)	60
Zucchero (esempio due cucchiaini per 10 grammi)	39

Weight Gain is one of the major health concern among mild-life women
It is age-related and is influenced by demographic, social and behavioural factors. Furthermore, it is associated with poorer education and urbanization. Finally, high parity, family history of obesity, and marriage at earlier age may negatively influence the weight gain in perimenopause.

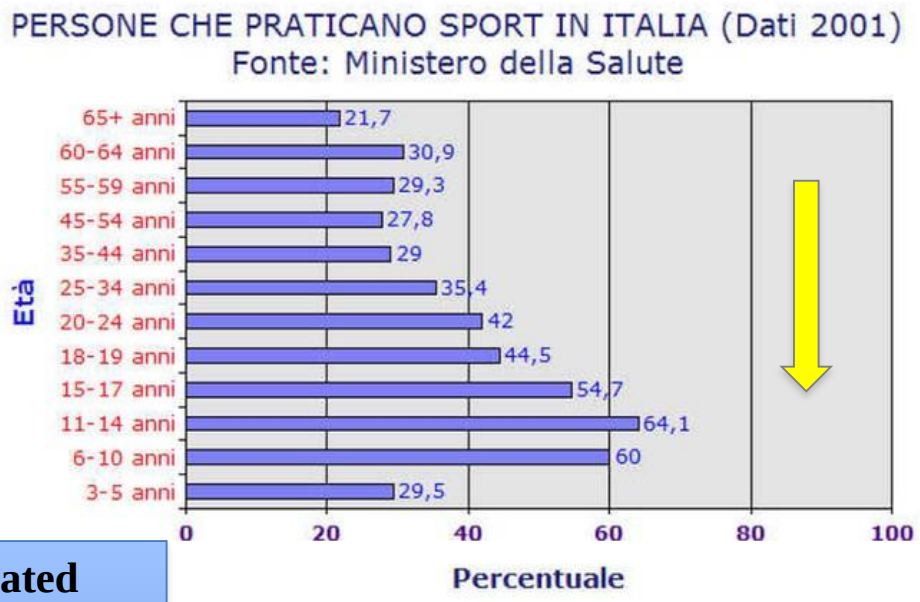
Age Related

Obese phenothype (16% of women)

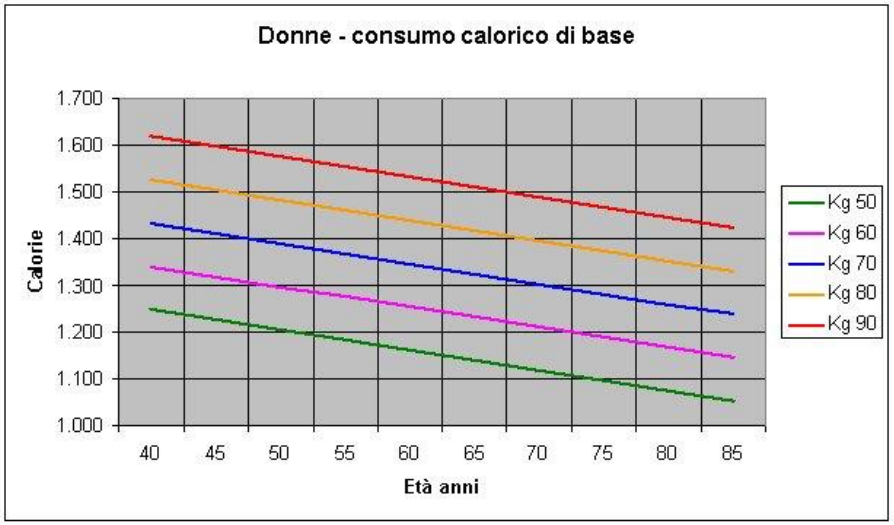
SWAN 1 (age 45-55 years):
Body weight increase in 3 years= 2.5 Kg

SWAN 2:
6 years period around menopause= 6% increase of waist circumference, 10% increase in fat mass, 1% decrease of skeletal mass mass

Healthy Women's Study:
Weight gain= 0.7 Kg/yr during the 5^{th} and 6^{th} decades of life



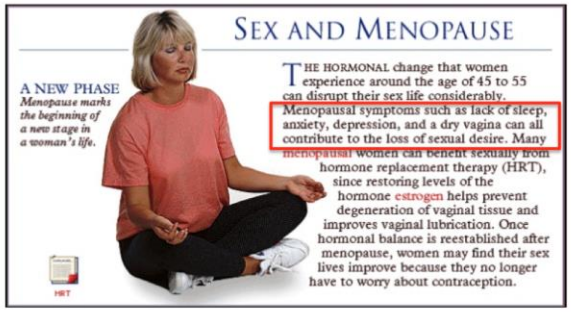
Age Related



Fat oxidation, Free Energy Expenditure, Activity Energy Expenditure and Sleeping Expenditure decline over the time in mid-life

The decline is 1.5 times greater in post-menopause

If there is no equivalent increase in Energy Intake, the BMI increase is inevitable



Frequence and Sexual Pleasure

Age Related

Organic Factors

The fall of estrogens and androgens may adversely affect the desire and the sexual response; atrophy of the vaginal ephitelium and obliteration of the fornix and the vaginal folds lead to the shortening of the vagina. **Organic factors in the partner.**

Psyco-Cultural Factors

The cessation of menstruation and the loss of fertility have been perceived by women as a definitive sign of aging. Empty Nest Syndrome. Therefore, sex, that is perceived as a "juvenile" activity must be avoided.

The perimenopause/postmenopause are associated with a higher vulnerability to anxiety and depression

Menopausal Depression affects one's ability to consistently attain dietary goals. Thus significantly increase emotional eating and binge eating scores
Barbee KG J Holist Nurs 2015

Antidepressants drugs (selective seretonine reuptake inhibitors; seretonine/ norepinephrine reuptake inhibitors; clozapine,, imipramine, amitryptiline) are associated with weight gain and negative metabolic consequences (increased cellular cholesterol and fatty acid byosinthesis).

Disruption of circadian rythms and timing of food intake (as seen with shift work and sleep deprivation) with skipping breakfast, increased daily frequency snaking, irregular meals, consumption of fast food and take-away food, consumption of large portion of food and eating until full

#over65

Popolazione di 65 anni e più

1 GEN 2015 — 13.219.074 — 21,7% rispetto a popolazione totale

2065 — 20.007.068 — 32,6% rispetto a popolazione totale

Indice di vecchiaia

valore per cento #under15 al 1° gennaio 2015

2002 **131,7**

2014 **157,7**

Speranza di vita a 65 anni

anni

	nel 2002	nel 2014
Maschi	+16,9	+18,8
Femmine	+20,8	+22,2

Stato civile

Donne e uomini over 65 per stato civile, valori percentuali all' 1.1.2015

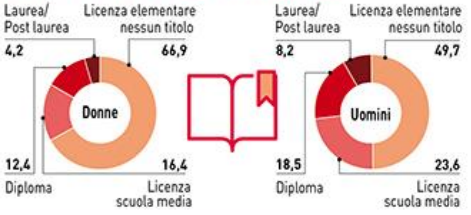
Over 65 il **48,0%** delle persone sole

61,6% donne — 29% uomini

valori percentuali, anno 2014

Istruzione

Donne e uomini over 65 per titolo di studio, valori percentuali anno 2014



Lavoro e pensione

Donna | Uomo

OCCUPATI OVER 65 ANNO 2014

1,2%* — 114 mila

2,7%* — 355 mila

* su totale occupati

PENSIONATI OVER 65

6,7 mln — 77,6%* Donna

5,6 mln — 72,3%* Uomo

* su totale pensionati

REDDITO PENSIONISTICO ANNUO LORDO OVER 65 ANNO 2013

14.419 € — 20.559 €

INDICE DI DIPENDENZA DEGLI ANZIANI

1 GENNAIO 2014 — **33,7%**

1 GENNAIO 2002 — **27,9%**

Stili di vita e salute

Persone di 65-74 anni, valori percentuali anno 2014

	Donna	Uomo
In buona salute	36,2	44,0
Con almeno una malattia cronica	78,3	73,6
Consumatori di farmaci	76,9	75,0
Svolgono attività fisica con continuità	9,2	11,2
In sovrappeso	40,9	52,8
Consumano alcolici fuori pasto	7,2	29,2
Fumatori	9,4	16,4
Consumano 5 o più porzioni al giorno di verdure, ortaggi o frutta	5,6	4,8

Consumi culturali

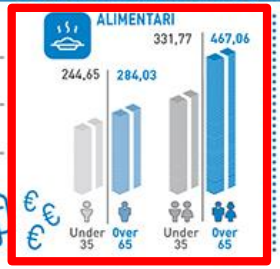
Persone di 65-74 anni, valori percentuali anno 2014

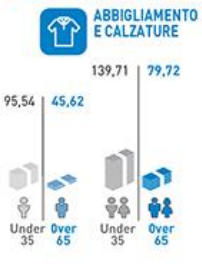
	Donna	Uomo
Ascoltano la radio abitualmente	37,6	45,5
Leggono quotidiani almeno una volta a settimana	47,0	66,6
Guardano la Tv abitualmente	95,1	94,9
Hanno visitato musei e mostre almeno una volta nell'ultimo anno	20,5	23,1
Sono andati al cinema nell'ultimo anno	20,6	22,7
Hanno usato il pc nell'ultimo anno	14,3	29,0
Hanno usato Internet nell'ultimo anno	14,4	28,7

Differenze nei consumi fra under 35 e over 65

- Under 35 — Persona sola under 35
- Over 65 — Persona sola over65
- Under 35 — Coppia senza figli capofamiglia under 35
- Over 65 — Coppia senza figli capofamiglia over 65

valori assoluti, anno 2014





Weight Gain is one of the major health concern among mild-life women particularly during the menopausal transition

The Menopausal Transition begins at age 47 and takes about 4 yrs.

Recommendations of Stages of Reproductive Aging Workshop (STRAW), Park City, Utah USA, July 2001

*Reprinted with permission from the American Society for Reproductive Medicine (**Fertility and Sterility**, 2001, Vol. 76, No. 5, page 875)* [1]

Final Menstrual Period (FMP) ~ 51 yrs

Stages:	-5	-4	-3	-2	-1	0	+1	+2
Terminology:	Reproductive			Menopausal Transition			Postmenopause	
	Early	Peak	Late	Early	Late*		Early*	Late
				Perimenopause				
Duration of Stage:	variable			variable		(a) 1 yr	(b) 4 yrs	until demise
Menstrual Cycles:	variable to regular	regular		variable cycle length (>7 days different from normal)	≥2 skipped cycles and an interval of amenorrhea (≥60 days)	Amen x 12 mos	none	
Endocrine:	normal FSH		↑ FSH	↑ FSH			↑ FSH	

*Stages most likely to be characterized by vasomotor symptoms ↑= elevated

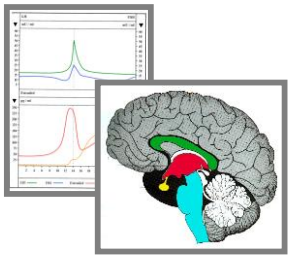
> 1.5 billion

In 2030

> 20% of female population

12.5 / 60 millions

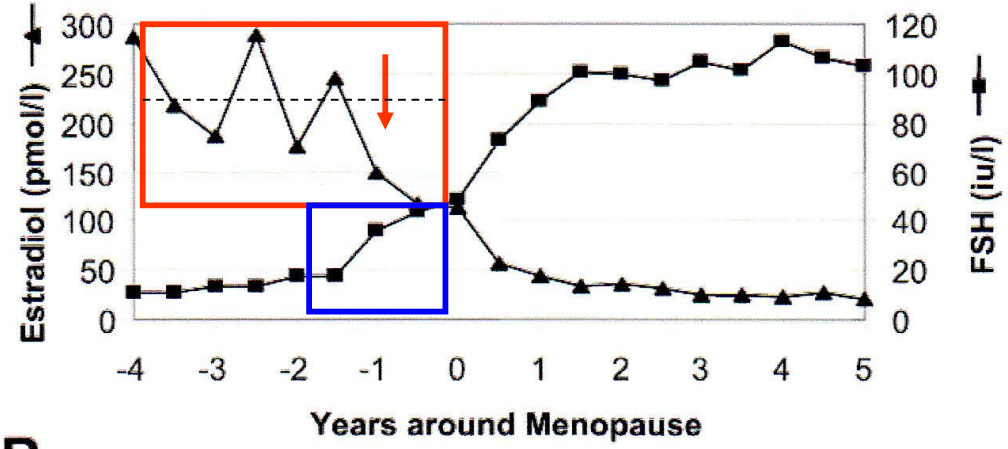
Menopausal Related



Menopausal Transition

E_2 levels result elevated, in perimenopausal women, also in the premenstrual portion of the cycle

A



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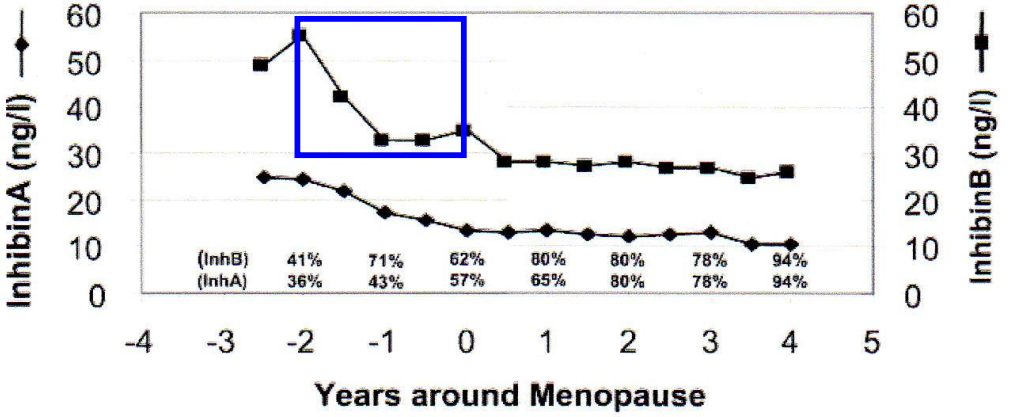
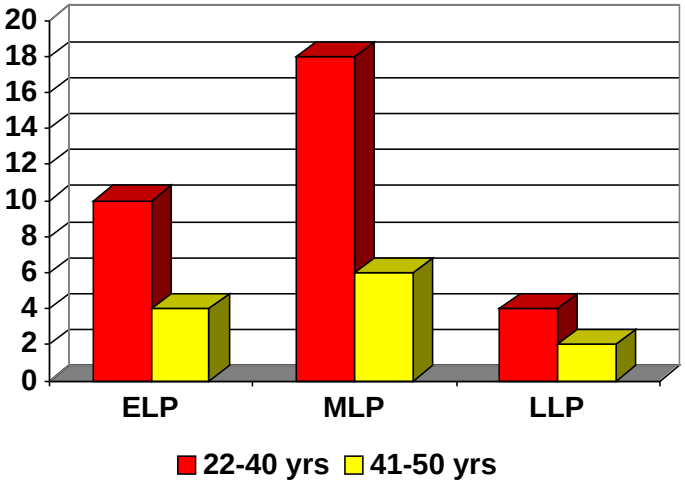


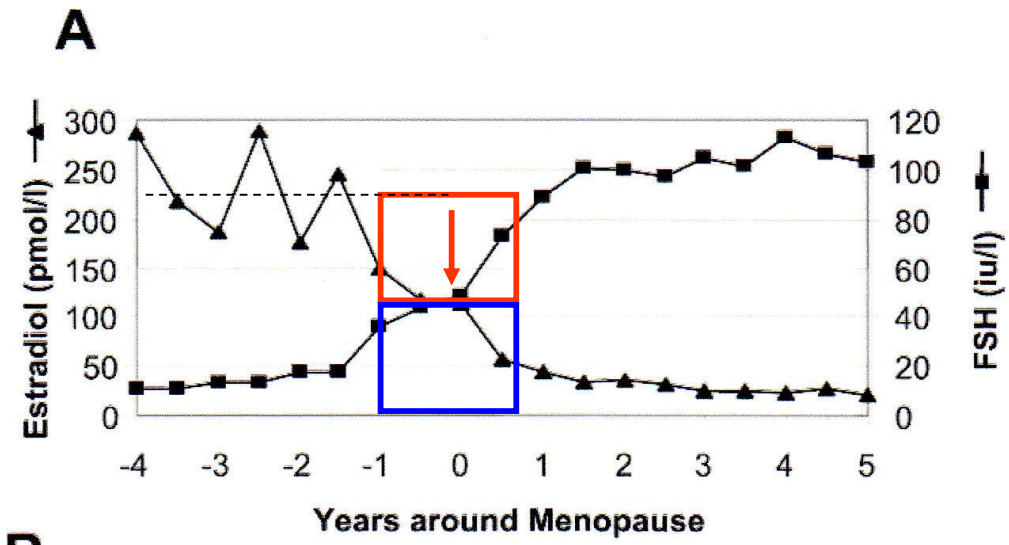
Progesterone (ng/ml)



The loss of the luteal phase increase is associated with the reduction of Energy Expenditure

The fall in INH-B reflects the attainment of a critically low number of ovarian follicles

Menopausal Transition

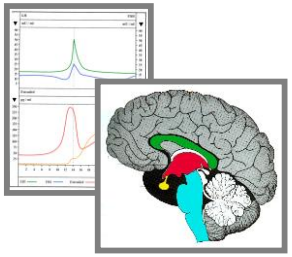


Due to the loss of negative feed-back from Inhibin, **serum FSH increases from pre- to post-menopause**

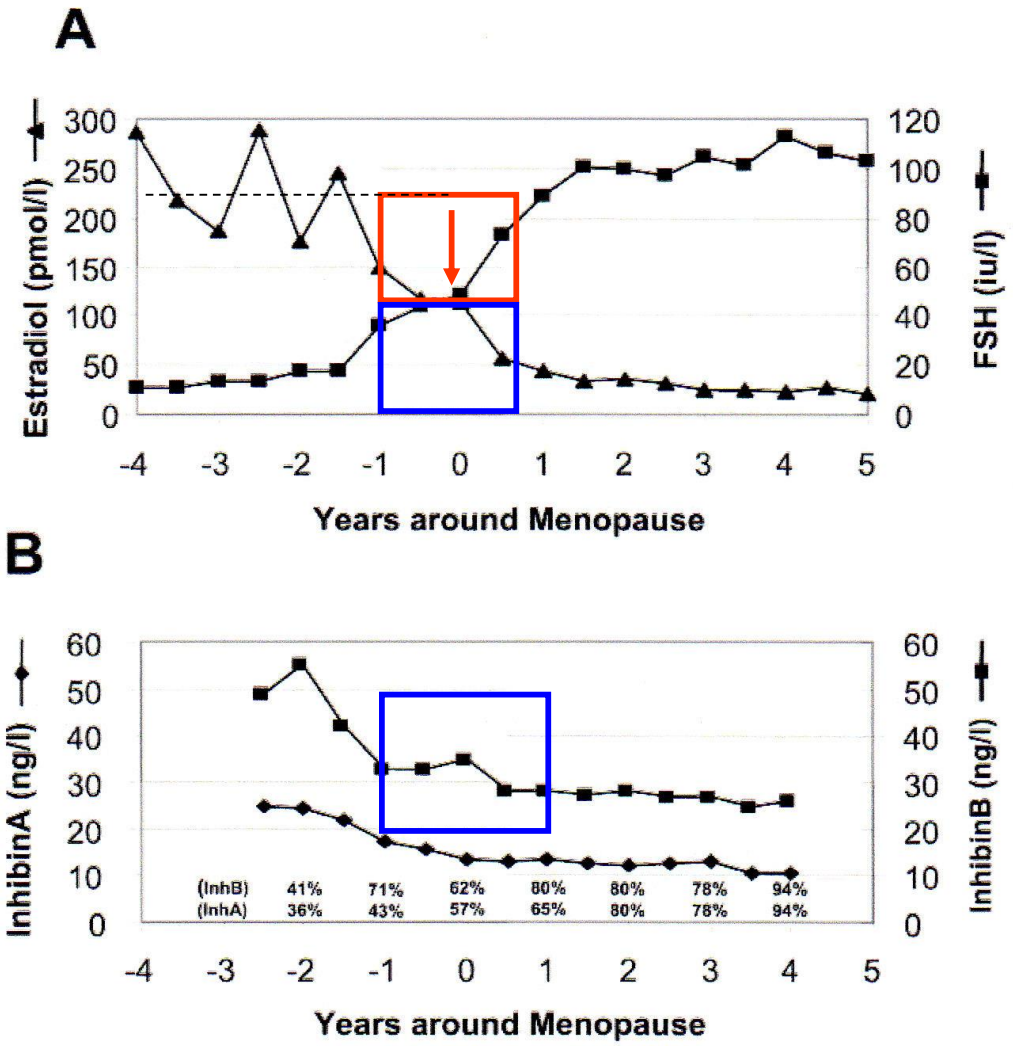
While FSH receptors were originally thought to be restricted to the gonads, **FSH receptors were found in visceral fat**

In vitro administration of FSH in mice resulted in redistribution of visceral fat mass, and **increase in adipocytes lipid droplets and adipocytes lipid synthesis**

In addition, FSH may **increase serum levels of C-reactive protein** and tissue plasminogen activator favoring an **adverse inflammatory profile**



Menopausal Transition

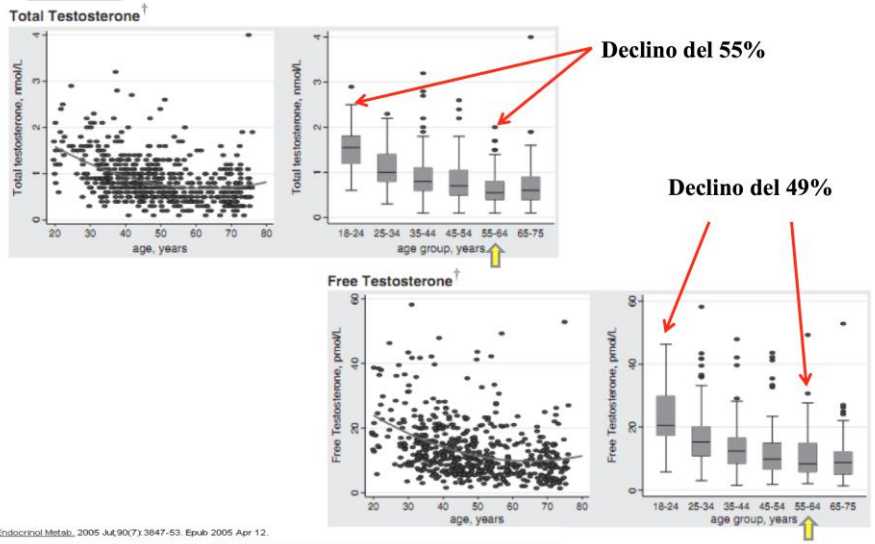


The increase of visceral fat tissue is correlated with low E_2
These changes have beeen related with the changes of adipose tisssue metabolism

In the reproductive phase Estradiol increase adipose lipoprotein lipase activity favouring lipolysis. It may be due to an induction of lipolytic enzyme hormone-sensitive lipase or to an increased lipolytic effect of epinephrine

The estrogens attenuate the lipolytic response through up-regulation of the antilipolytic α-2-adrenergic receptors only in subcutaneous and not visceral fat depot. The effect disappears after menopause

Changes in the androgen levels during age

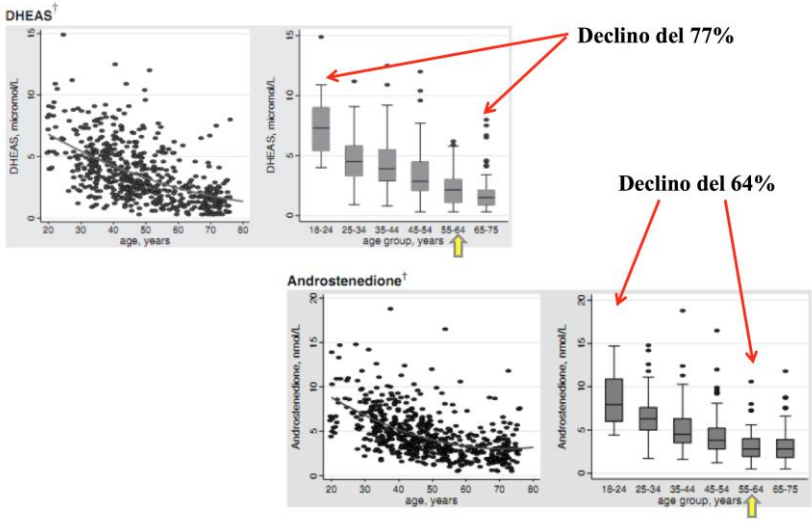


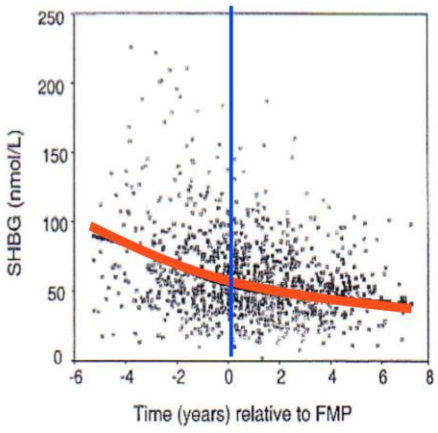
J Clin Endocrinol Metab. 2005 Jul;90(7):3847-53. Epub 2005 Apr 12.

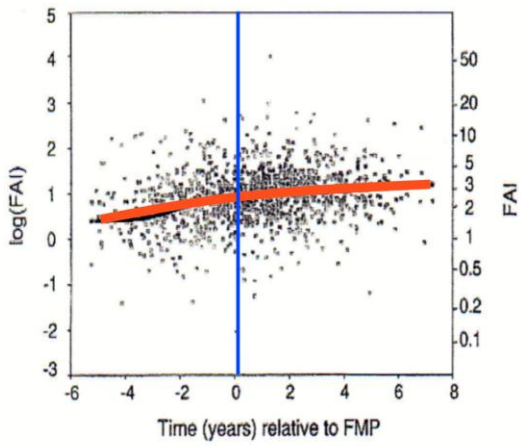
Androgen levels in adult females: changes with age, menopause, and oophorectomy.

Davison SL, Bell R, Donath S, Montalto JG, Davis SR

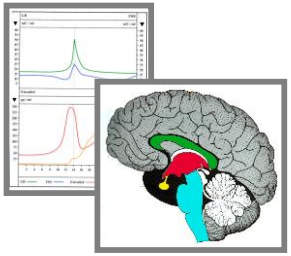
Changes in the androgen levels during age



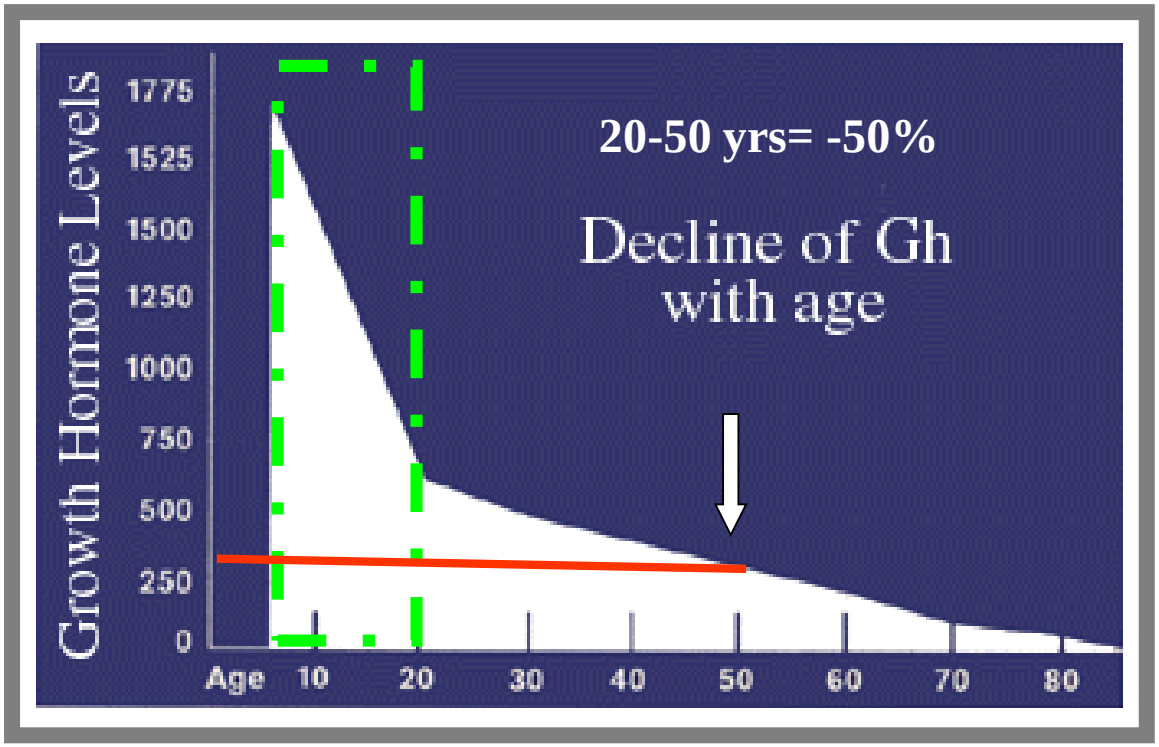




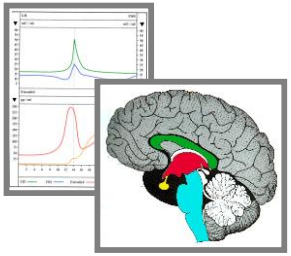
The possible insorgence of large increase of Visceral Fat (often associated with hirsutism and alopecia) may be related to the increased FAI



GH and Age



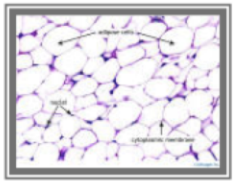
The anabolic effect of GH can directly result in stimulated muscle development and strenght, a loss of fat, and an increase in bone mass



GH and Age

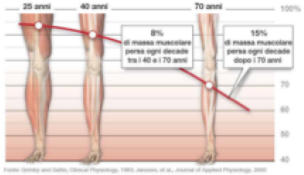
GH → **IGF-1**

- **Stimola crescita muscolare e scheletrica**
- **Regola lipolisi**

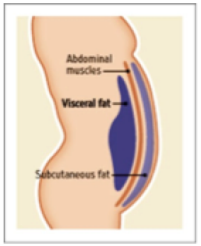


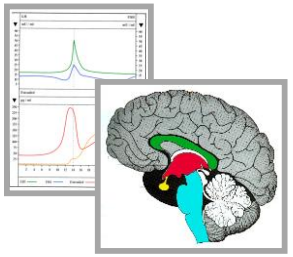
- **Promuove uptake di aminoacidi**

GH reduction = 20-50% decrease in muscle mass



and Increase of body fat





Adrenal gland and Age

ACTH and Cortisol unchange until advanced age. Then, because a higher nocturnal rhytmcity, there is a progressive increase of Central Fat Deposition, sleep disturbance and hypertension.

The same amount of ACTH elicits a greter response of cortisol and a less response of DHEA and DHEA-S secretion

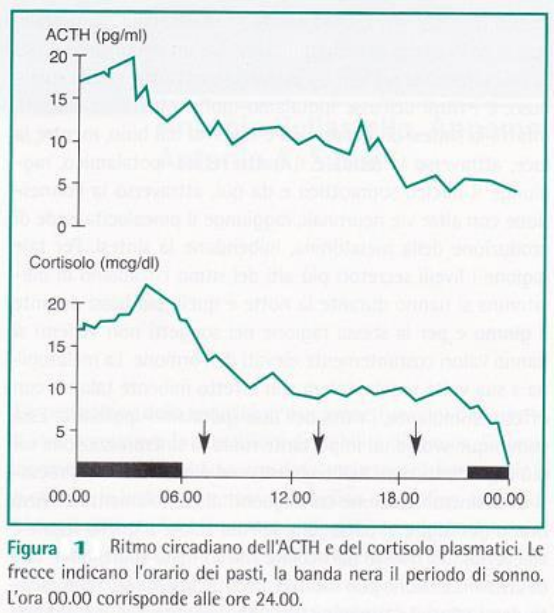
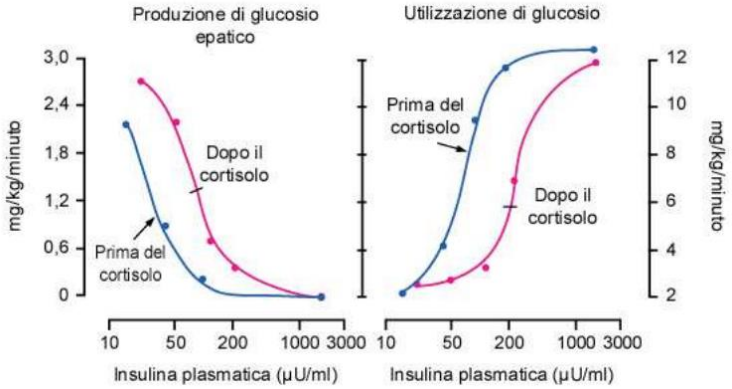
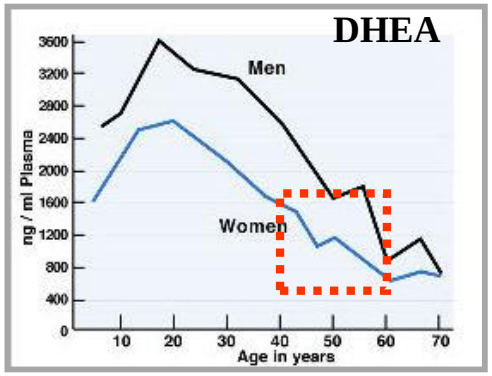
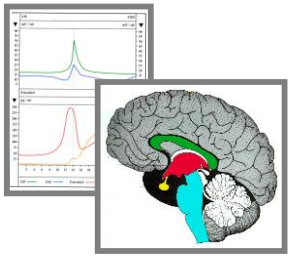


Figura 1 Ritmo circadiano dell'ACTH e del cortisolo plasmatici. Le frecce indicano l'orario dei pasti, la banda nera il periodo di sonno. L'ora 00.00 corrisponde alle ore 24.00.





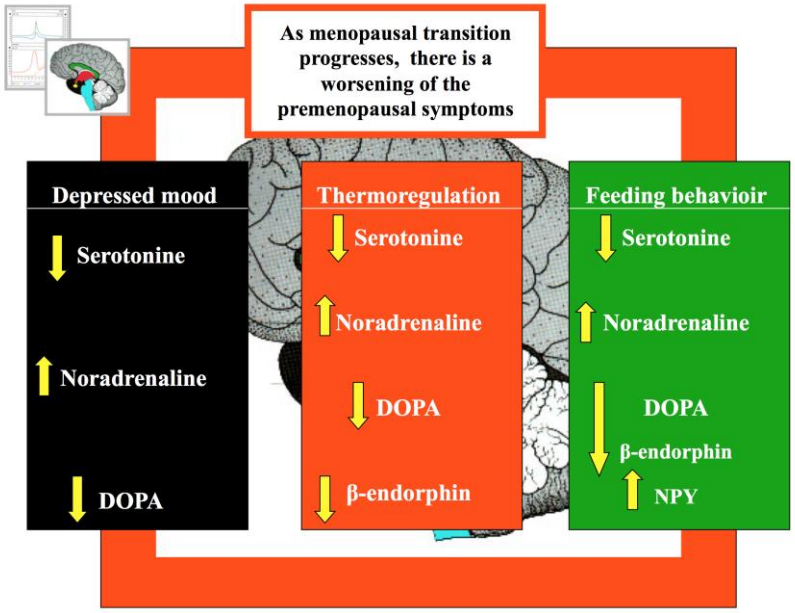
DHEA: decreases the number and volume of adipocytes. Furthermore, by increasing the protein utilization, favors a greater muscular mass

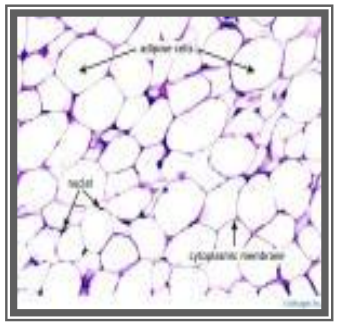


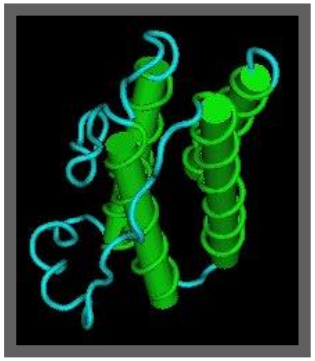
Menopausal Transition

Prl: no significant variations. Sometimes it is possible to observe a slight decrease

Thyroid: no significant variations in TSH values. With age there is an increase of thyroid disorders related to autoimmune diseases







Control of appetite and maintainance of fat mass requires multiple complex interactions between brain, gut, and adipose tissue.

Adipose tissue functions as an active paracrine gland and secretes multiple hormone-like substances as Leptin, Adiponectin, and Resistin, collettively known as Adipokines, that influence appetite and energy balance

Ghrelin, a peptide hormone secreted from the stomach, plays an important role in energy homeostasis

Broadly speaking: estrogens and leptin reduce food intake, whereas androgens and ghrelin stimulate appetite

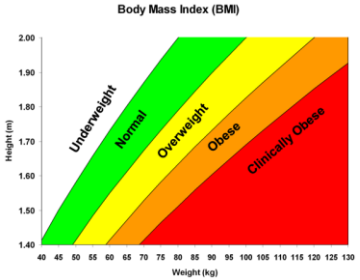
Elevated circulating leptin and low levels of adiponectin have been linked to obesity, inflammation, insulin resistance, avd CVD in postmenopausal women

Aspecific Factors
+
Age Related
+
Specific Menopausal Factors

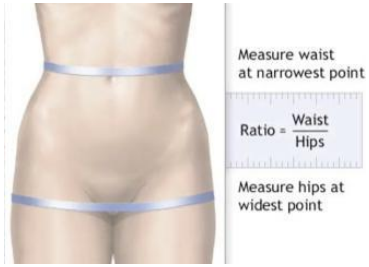
Women have relatively greater Subcutaneous Adipose Tissue (SAT) prior to the final mestrual period (FMP) and relatively greater Visceral Adipose Tissue (VAT) after the FMP

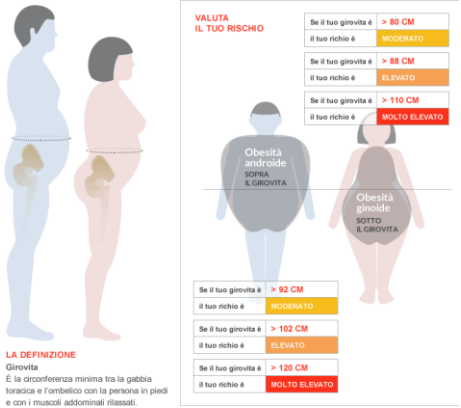
During the menopausal transition, the visceral fat depot increases from 5-8% of total body fat during the premenopausal period to 15-20% of the total fat during the postmenopausal period

Furthermore, women with surgical menopause have 5 times increased odds (odds ratio= 5.07) of developing severe obesity if compared to premenopausal women of similar age



While BMI (Kg/m^2) is often used in both research and clinical setting, it is an overall summary measure of body size and thus does not completely capture measures of fat distribution or body composition which have independent predictive power for CVD and mortality





Waist-to-Hip Ratio (WHR) Norms				
Gender	**Excellent**	**Good**	**Average**	**At Risk**
Males	<0.85	0.85–0.89	0.90–0.95	≥0.95
Females	<0.75	0.75–0.79	0.80–0.86	≥0.86

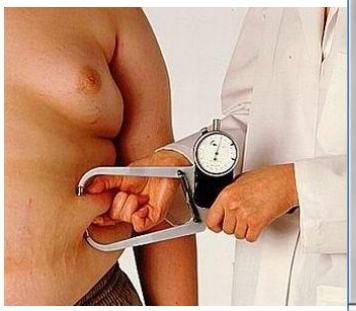


Figura 1 - *Plicometria*

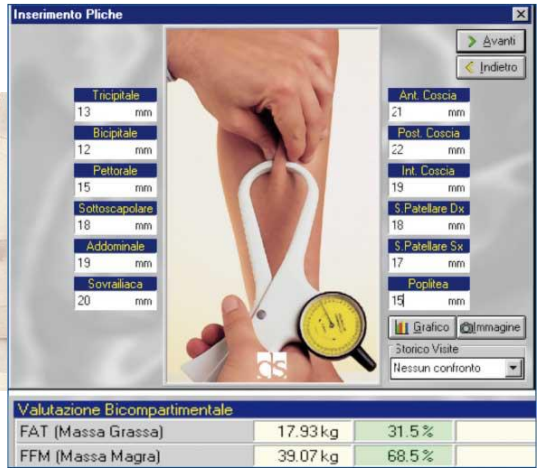
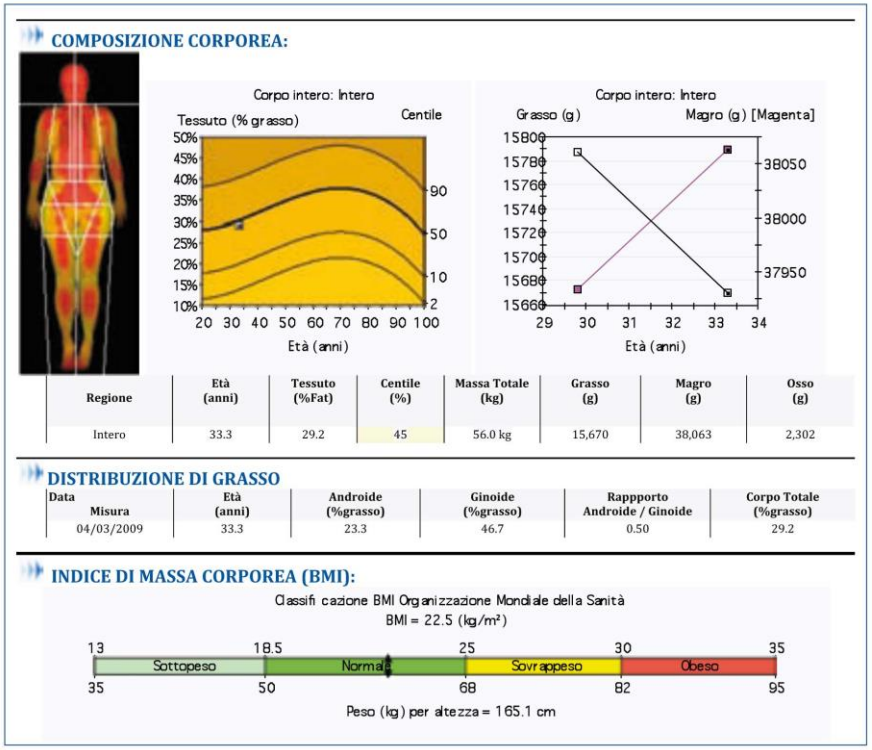


Figura 1



COMPOSIZIONE CORPOREA:

Corpo intero: Intero — Tessuto (% grasso) / Centile

Corpo intero: Intero — Grasso (g) / Magro (g) [Magenta]

Regione	Età (anni)	Tessuto (%Fat)	Centile (%)	Massa Totale (kg)	Grasso (g)	Magro (g)	Osso (g)
Intero	33.3	29.2	45	56.0 kg	15,670	38,063	2,302

DISTRIBUZIONE DI GRASSO

Data Misura	Età (anni)	Androide (%grasso)	Ginoide (%grasso)	Rappporto Androide / Ginoide	Corpo Totale (%grasso)
04/03/2009	33.3	23.3	46.7	0.50	29.2

INDICE DI MASSA CORPOREA (BMI):

Classificazione BMI Organizzazione Mondiale della Sanità

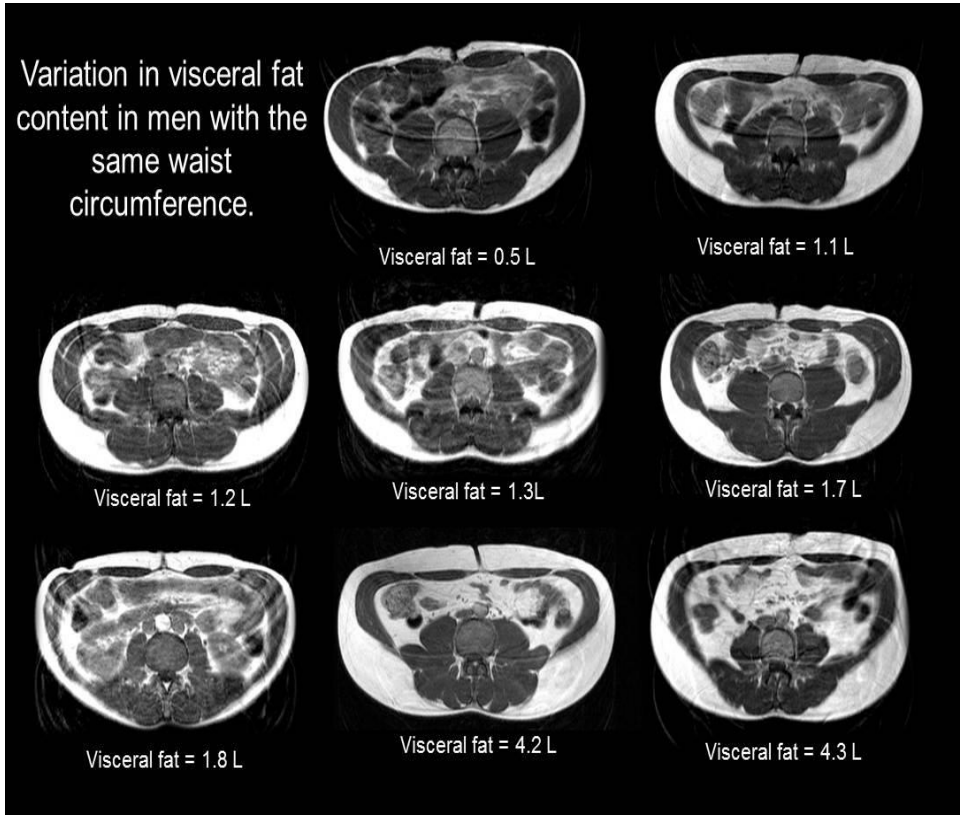
BMI = 22.5 (kg/m²)

13 — 18.5 — 25 — 30 — 35

Sottopeso | Normale | Sovrappeso | Obeso

35 — 50 — 68 — 82 — 95

Peso (kg) per altezza = 165.1 cm



DEXA **RMN**

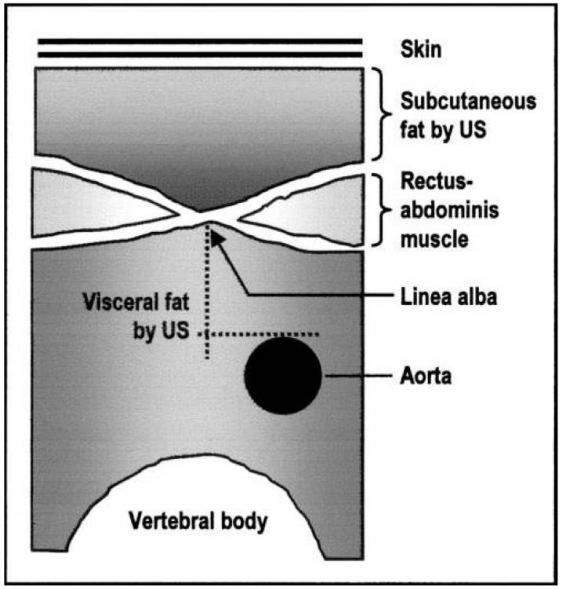


Figure 1: Illustration of abdominal adipose tissue and anatomical landmarks used for US measurements. (14).

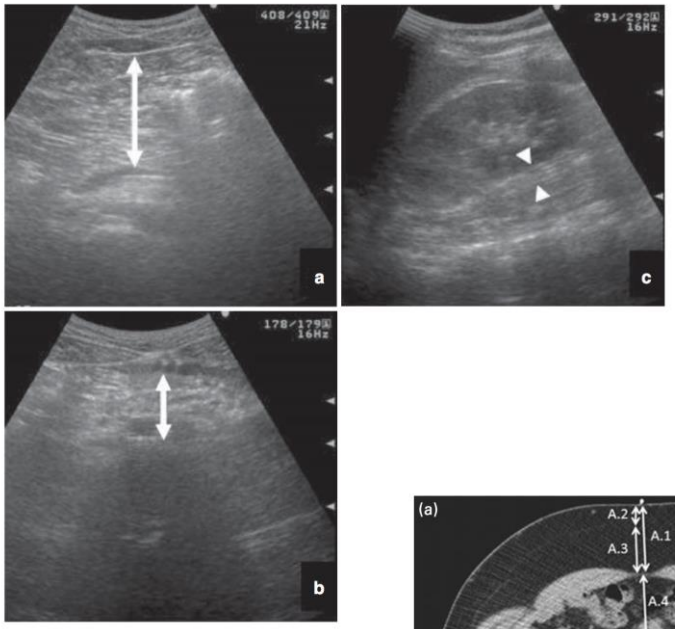


Fig. 1. Both the distance and the thickness of the parameters for visceral fat were measured by ultrasonography: **a** the distance between the internal surface of the abdominal muscle and the splenic vein (*arrow*), **b** the distance between the internal surface of the abdominal muscle and the posterior wall of the aorta on the umbilicus (*arrow*), and **c** the thickness of the fat layer of the posterior right renal wall (*arrowheads*) (modified from Hirooka et al.[14])

Figure 1. The area encircled in the dash line is the area of the inferior part of the perirenal fat (AIPPF), the value is marked at the bottom left.

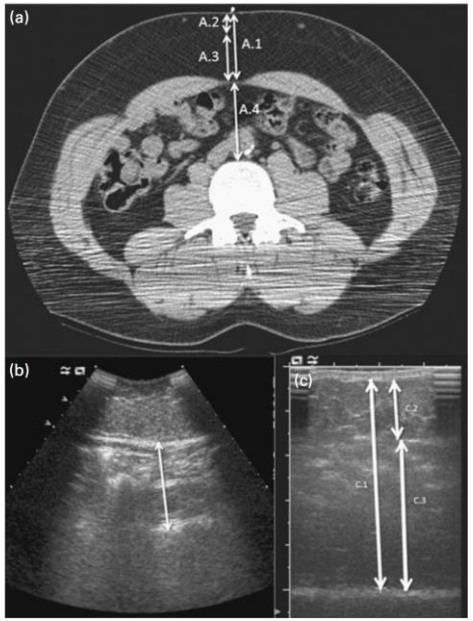
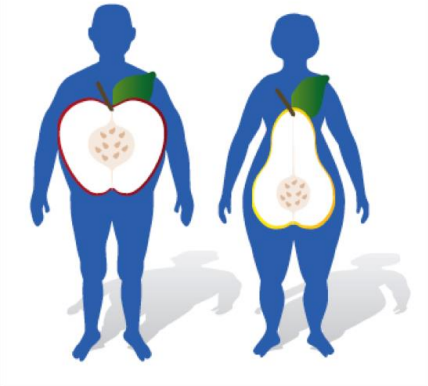
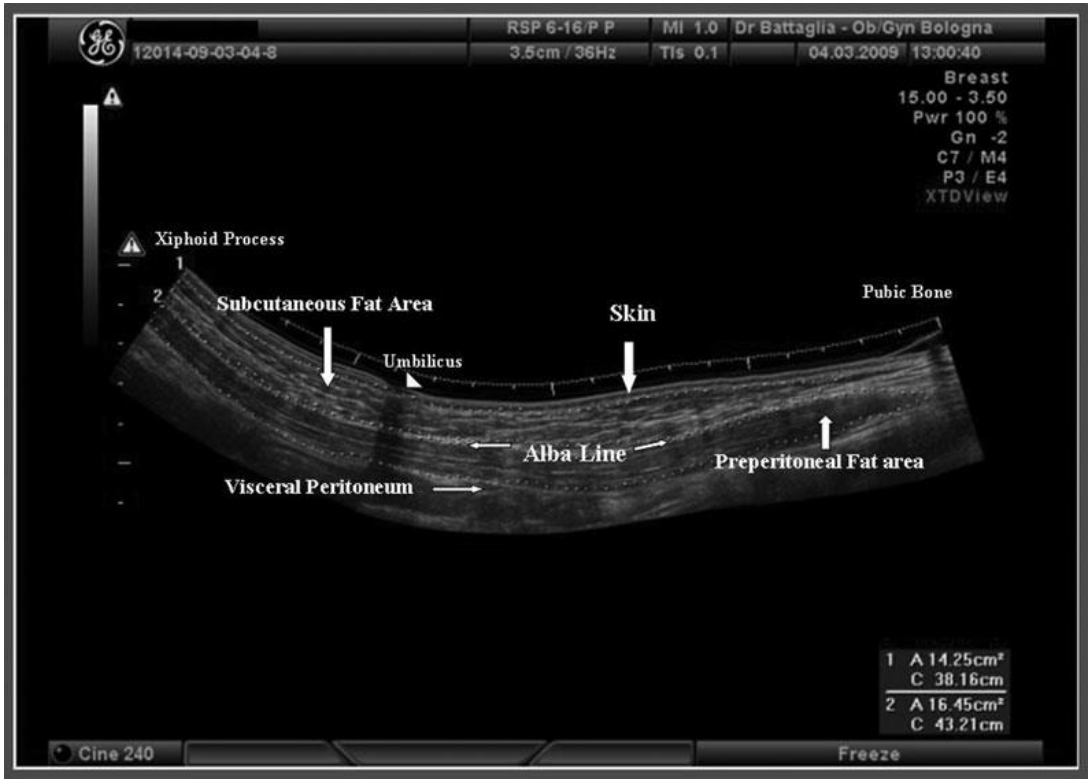


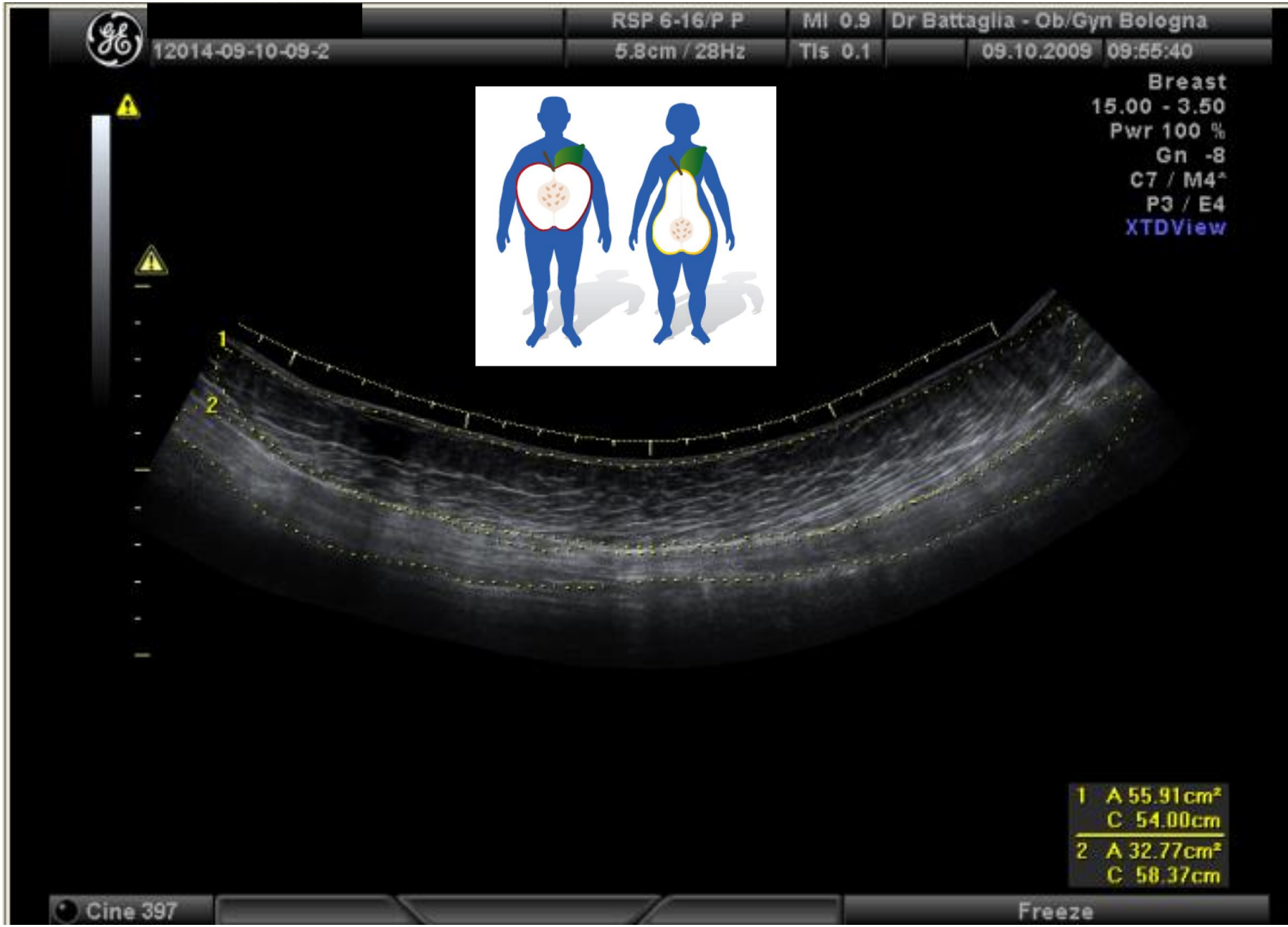
Fig. 1. Examples of the different computed tomography (CT) and ultrasound measurements. Panel (a) shows how measurements were made for the CT reference thicknesses; line A.1 shows the total subcutaneous thickness, line A.2 shows the superficial subcutaneous thickness, line A.3 shows the deep subcutaneous thickness and line A.4 shows the total visceral thickness. CT area calculations are defined in the Methods section. In panel (b), the line shows the total visceral thickness from ultrasound. In panel (c), line C.1 shows the total subcutaneous thickness, and lines C.2 and C.3 show the superficial and deep subcutaneous thicknesses, respectively.

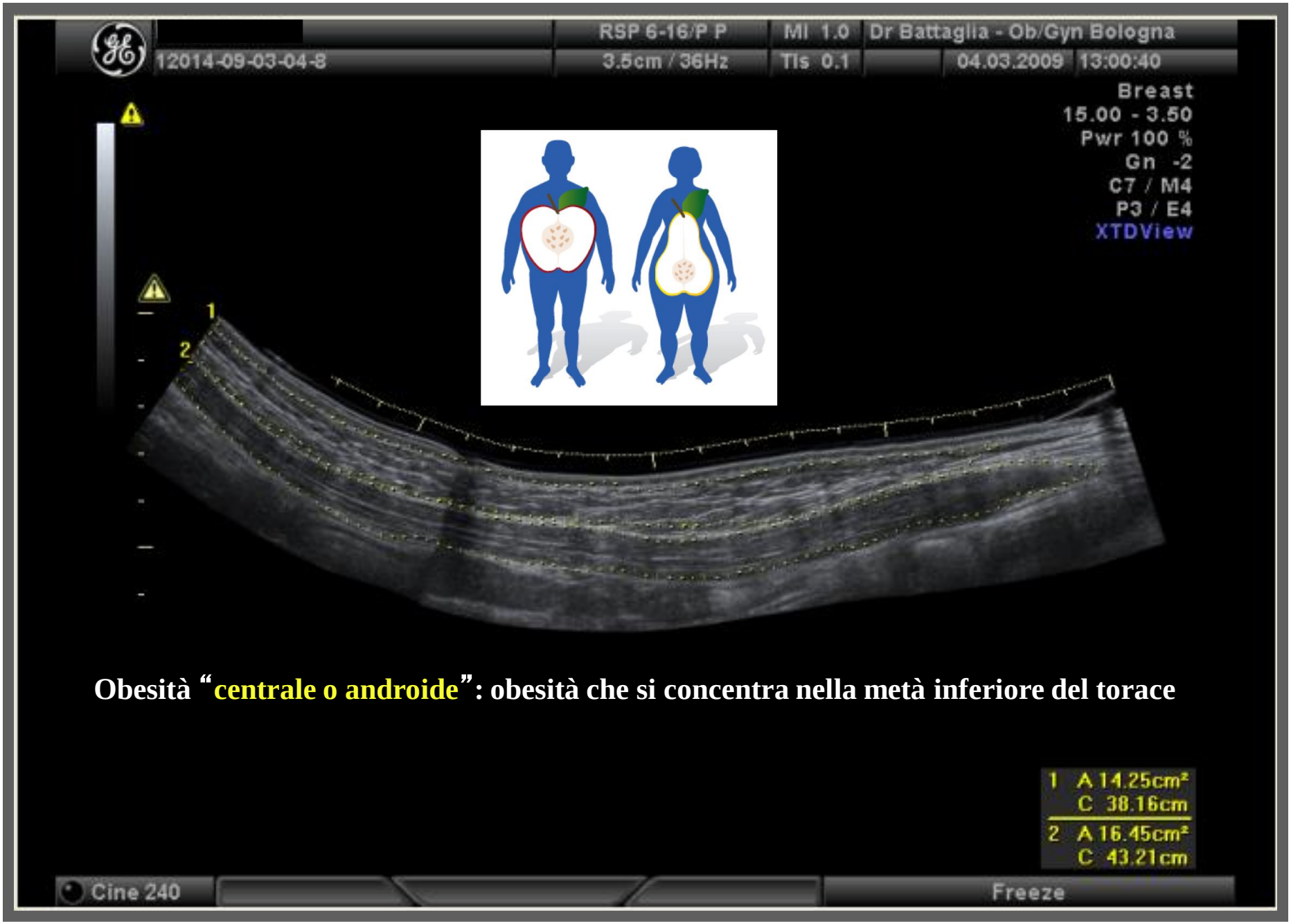
US extended (XTD) view option

Sonographic measurements of the subcutaneous and preperitoneal fat areas were performed using an RSP-16 linear array probe (Voluson 730 Expert Sonography System). The women were scanned in a supine position. The extended (XTD) view option, which takes ~15seconds to construct and enable viewing of a static two-dimensional image wider than the field of view of the transducer, was used to scan longitudinally, along the linea alba, the area between the xiphoid process and the pubic bone. The subcutaneous area was delineated between the inner edge of the skin and the outer edge of the linea alba (Figure 1). The preperitoneal area was measured between the inner edge of the linea alba and the outer edge of the visceral peritoneum (Figure 1). The preperitoneal/subcutaneous area ratio was calculated, with a value of one or more considered an index of visceral adiposity. In addition, the subcutaneous and preperitoneal fat tissue thickness was measured, as described by Merino-Ibarra et al. (16). Finally, mesenteric fat thickness was measured as suggested by Liu et al. (26). During the ultrasonographic fat measure-





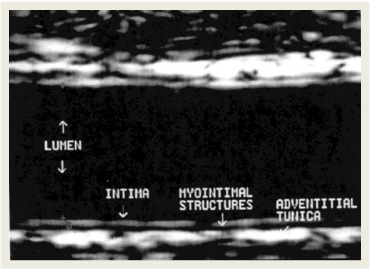

RSP 6-16/P P
MI 0.9
Dr Battaglia - Ob/Gyn Bologna
12014-09-10-09-2
5.8cm / 28Hz
TIs 0.1
09.10.2009
09:55:40
Breast
15.00 - 3.50
Pwr 100 %
Gn -8
C7 / M4^
P3 / E4
XTDView
1
2
1 A 55.91cm²
C 54.00cm
2 A 32.77cm²
C 58.37cm
Cine 397
Freeze

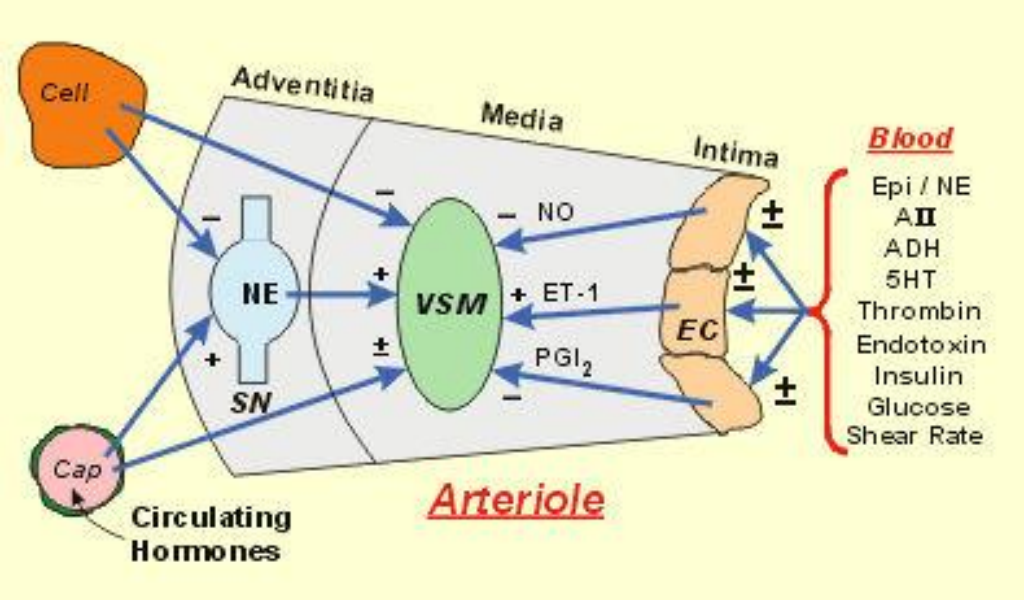


Obesità "centrale o androide": obesità che si concentra nella metà inferiore del torace


RSP 6-16/P P
MI 1.2
Dr Battaglia - Ob/Gyn Bologna
12014-09-02-16-1
4.3cm / 17Hz
TIs 0.0
16.02.2009
09:31:16
Breast
Har-mezzo
Pwr 100 %
Gn 1
C8 / M4
E4
SRI II 3 / CRI 2
1
2
1 D 0.35cm
2 D 0.62cm
Cine 349
21 sec

Endothelial dysfunction is present in the earliest stage of vascular diseases





Dysfunctional endothelium can be identified by reduced vasodilation or vasoconstriction

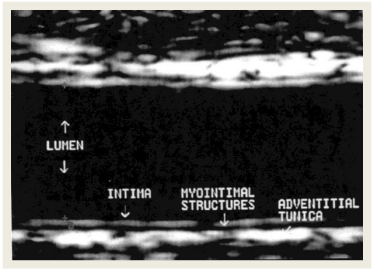
Vasodilating

- Nitric Oxide
- Prostacyclin
- Bradykinin
- Hyperpolarizing Factor

equilibrium

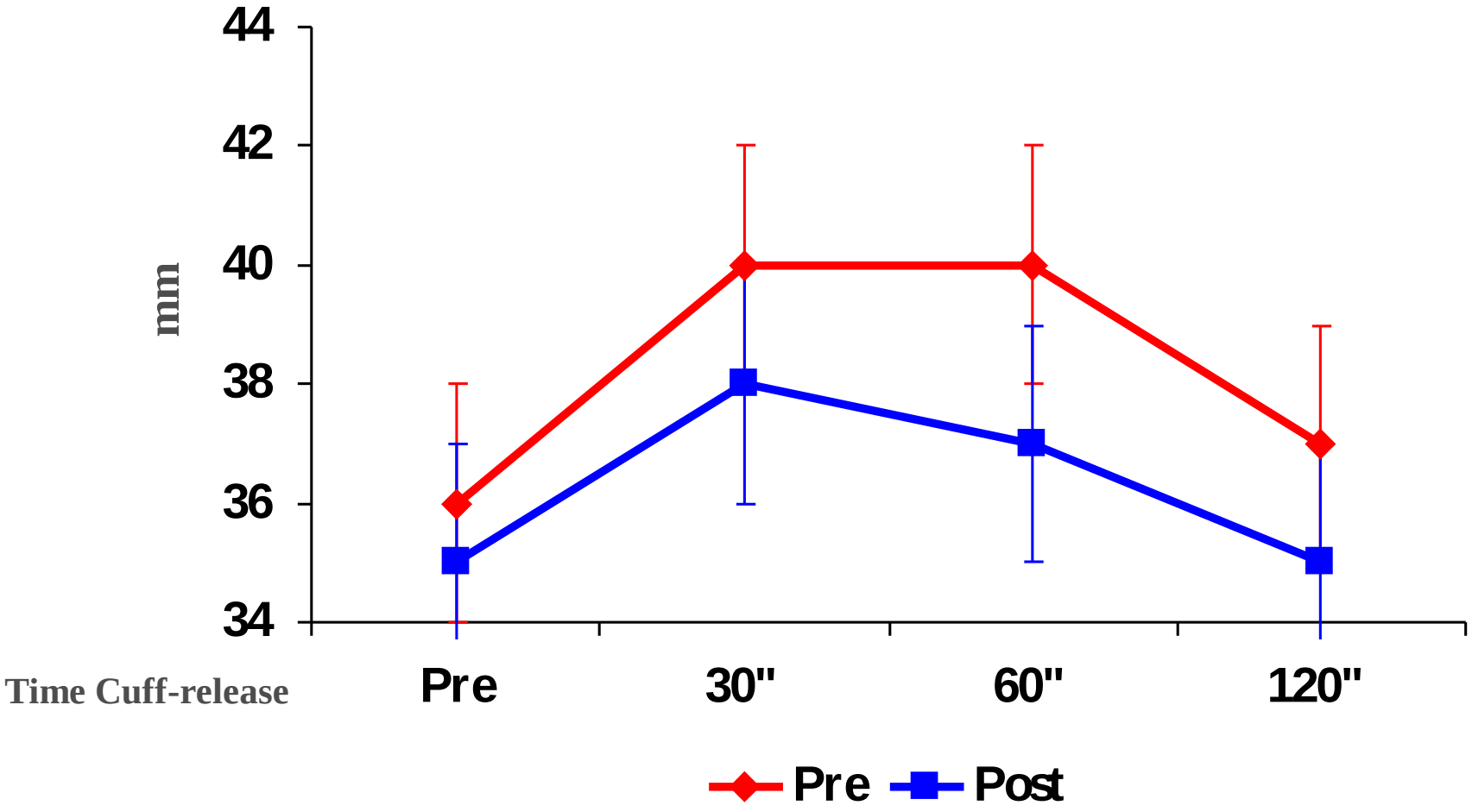
Contracting

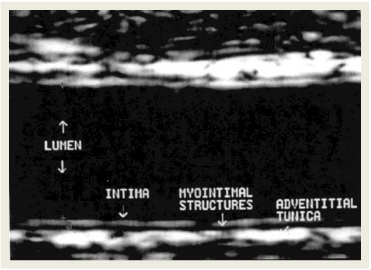
- Endothelin
- Thromboxane
- Angiotensin



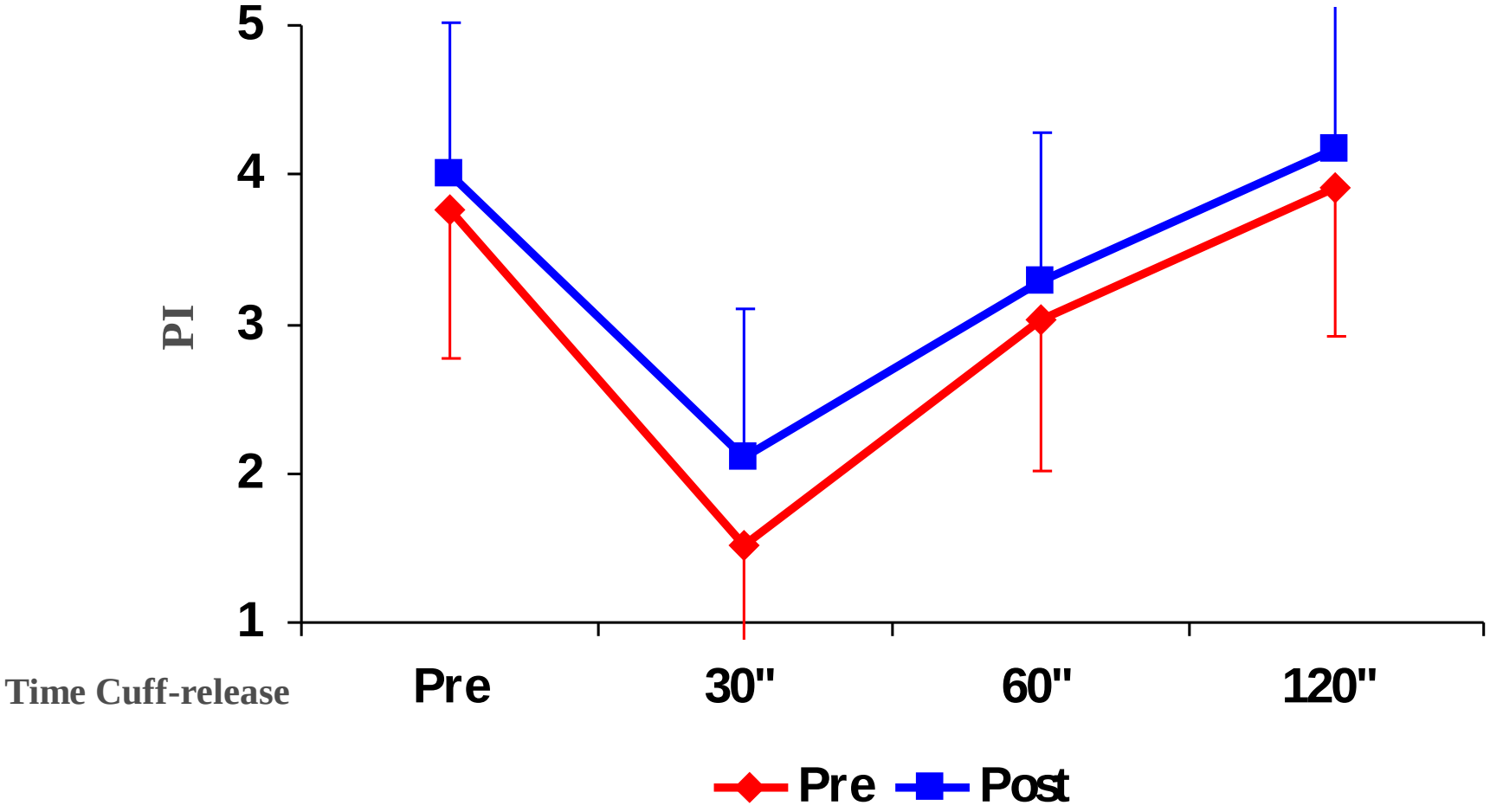
Brachial Artery Flow-mediated Vasodilation

Normal flow-mediated vasodilation is approximately >10% using the upper-arm occlusion technique

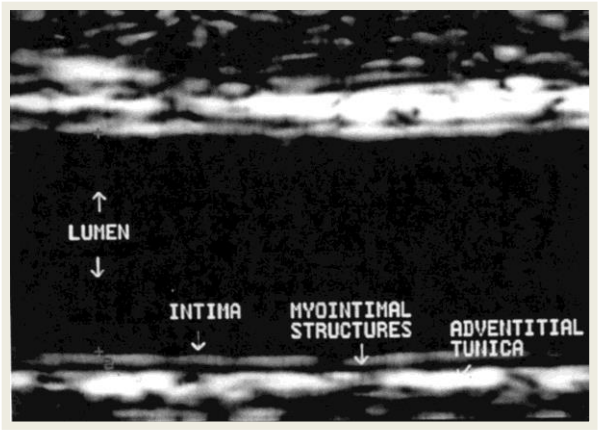




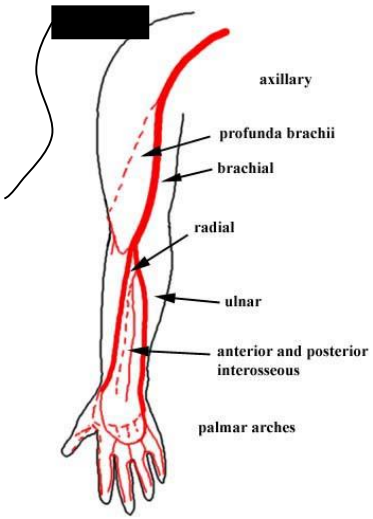
Brachial Artery Flow-mediated Vasodilation

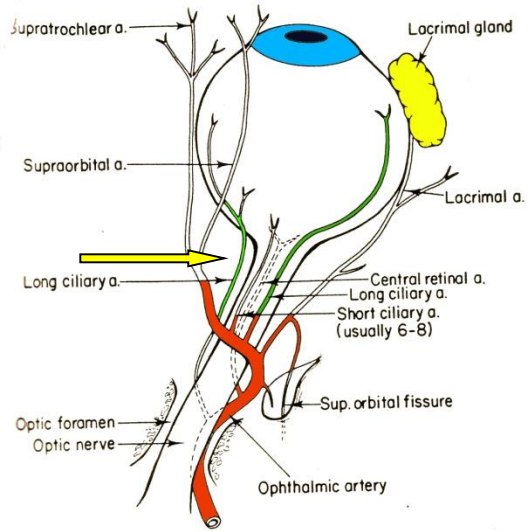


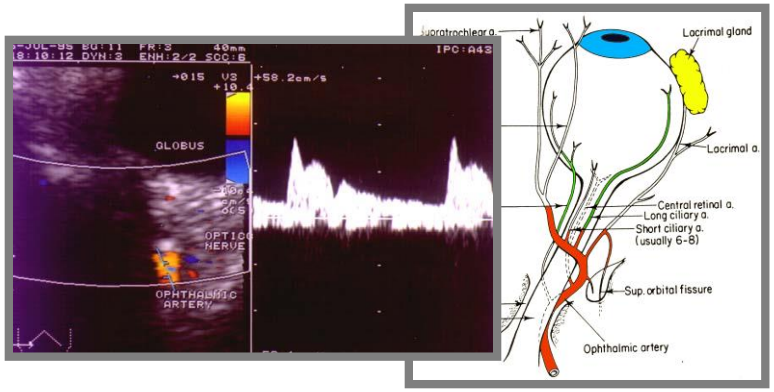
The decreased vascular compliance may be attributable to nonenzymatic glycation of elastin and collagen in the tunica


LUMEN
INTIMA
MYOINTIMAL STRUCTURES
ADVENTITIAL TUNICA

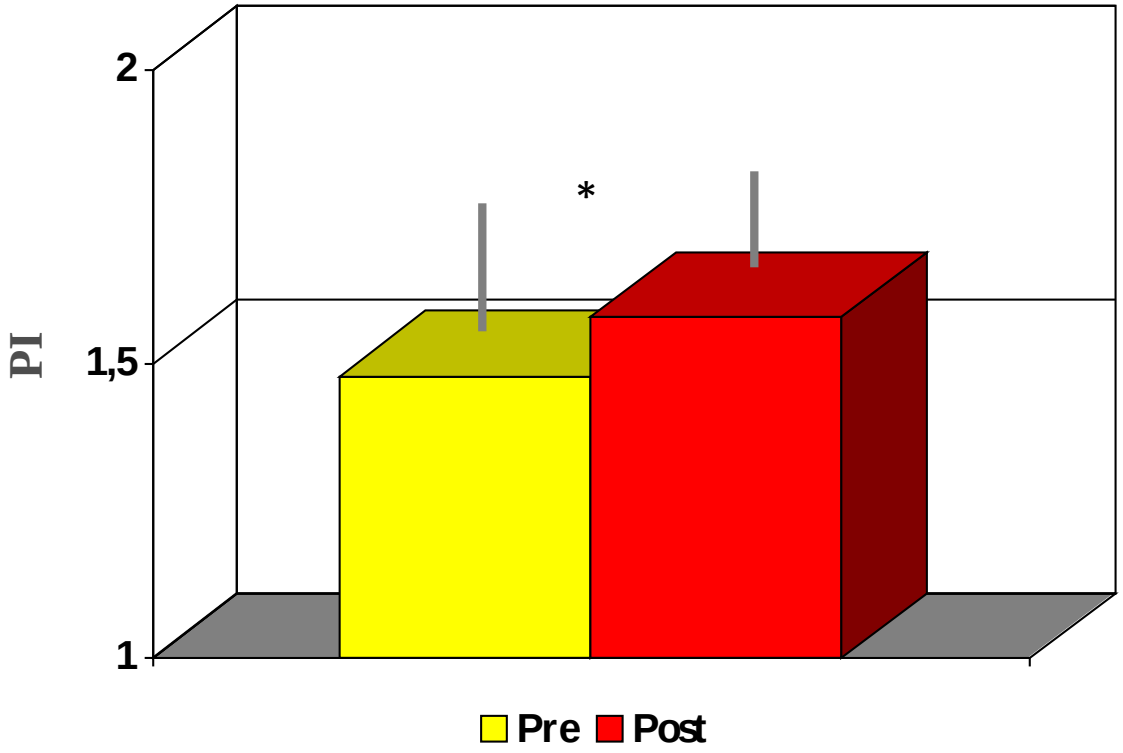

GLOBUS
OPTIC NERVE
OPHTHALMIC ARTERY


axillary
profunda brachii
brachial
radial
ulnar
anterior and posterior interosseous
palmar arches


Supratrochlear a.
Lacrimal gland
Supraorbital a.
Lacrimal a.
Long ciliary a.
Central retinal a.
Long ciliary a.
Short ciliary a. (usually 6-8)
Sup. orbital fissure
Optic foramen
Optic nerve
Ophthalmic artery

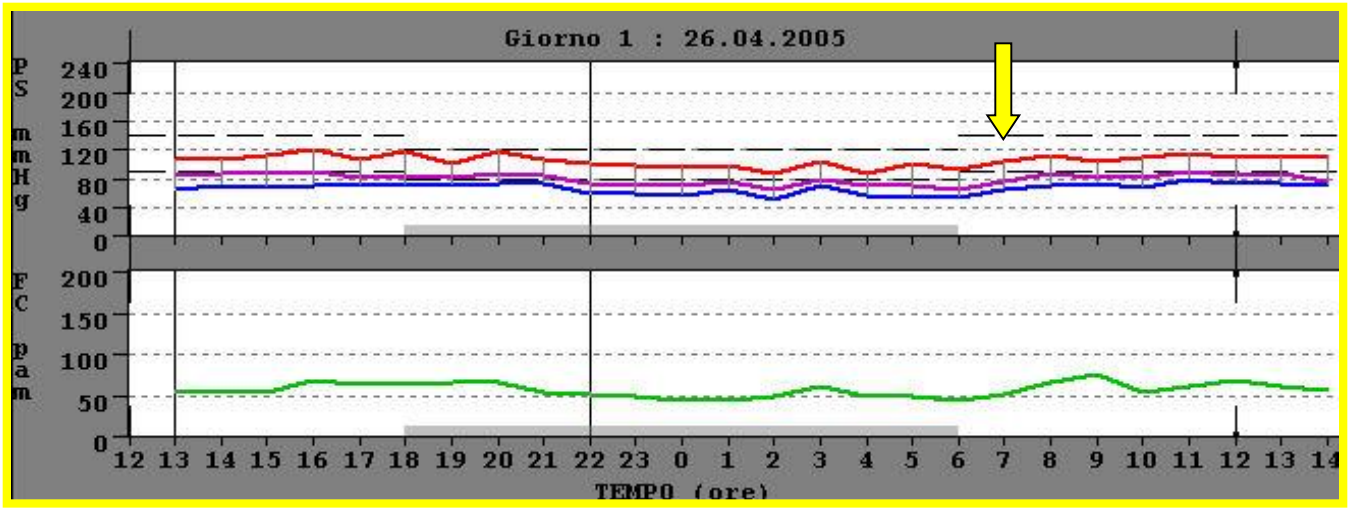


Ophthalmic Artery Doppler Analysis

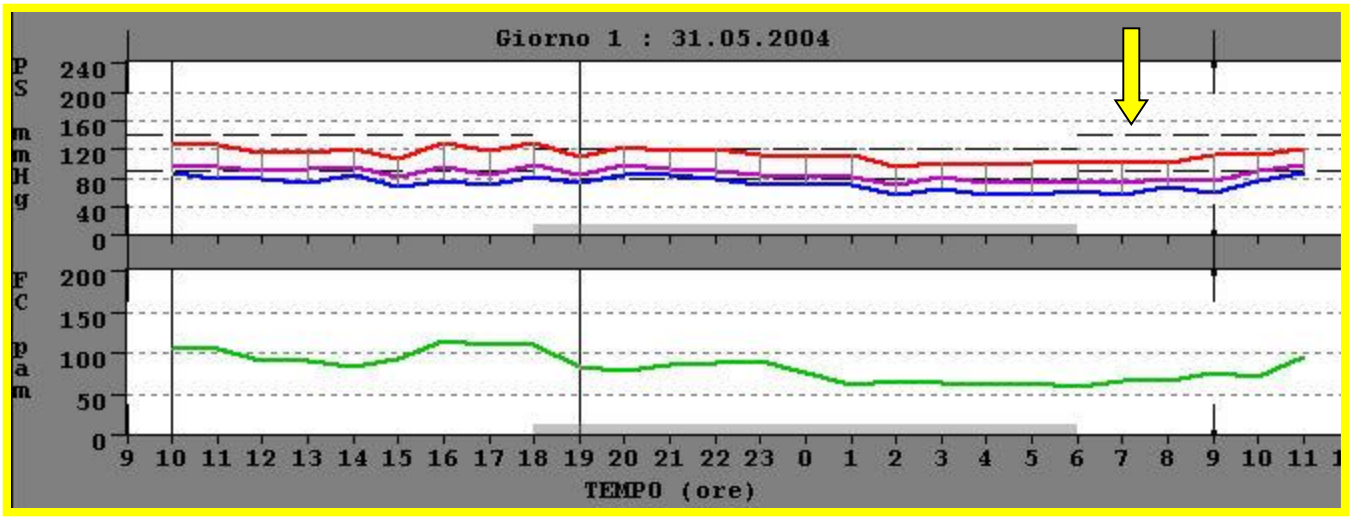


Postmenopause

BMI= 19-25

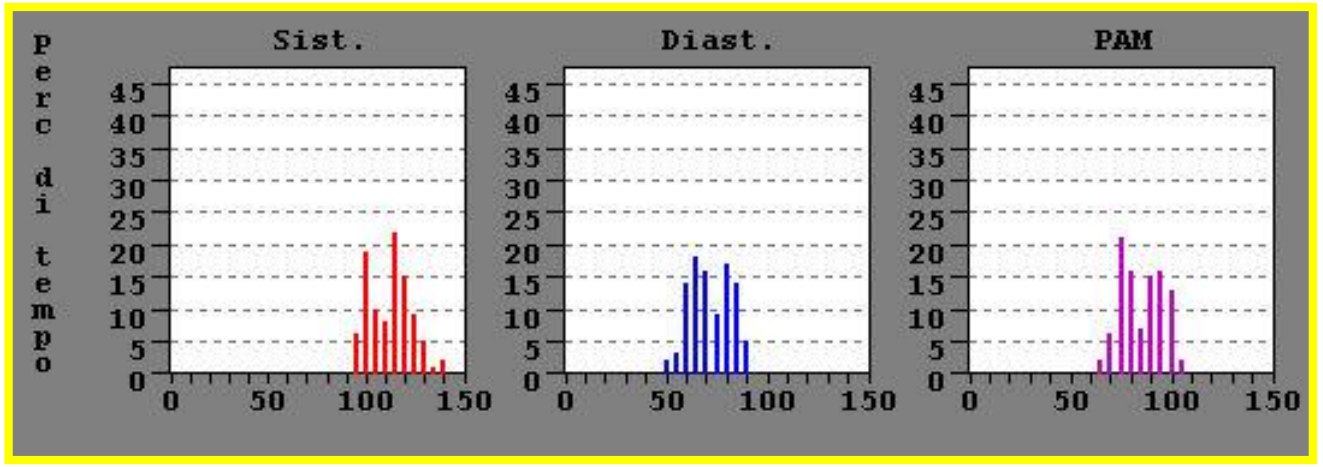


BMI= 25-30

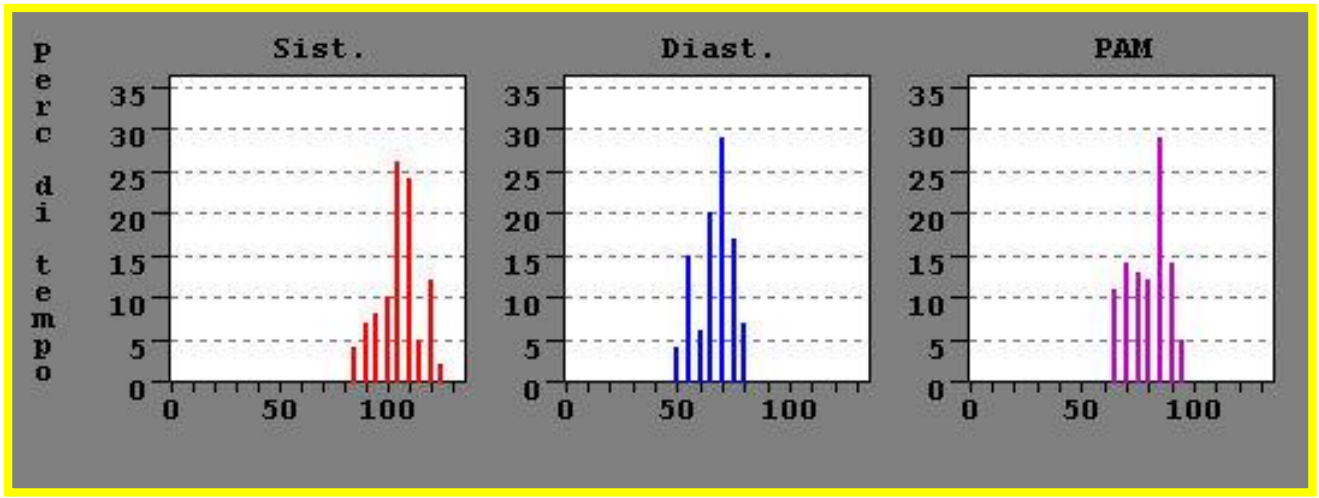


Postmenopause

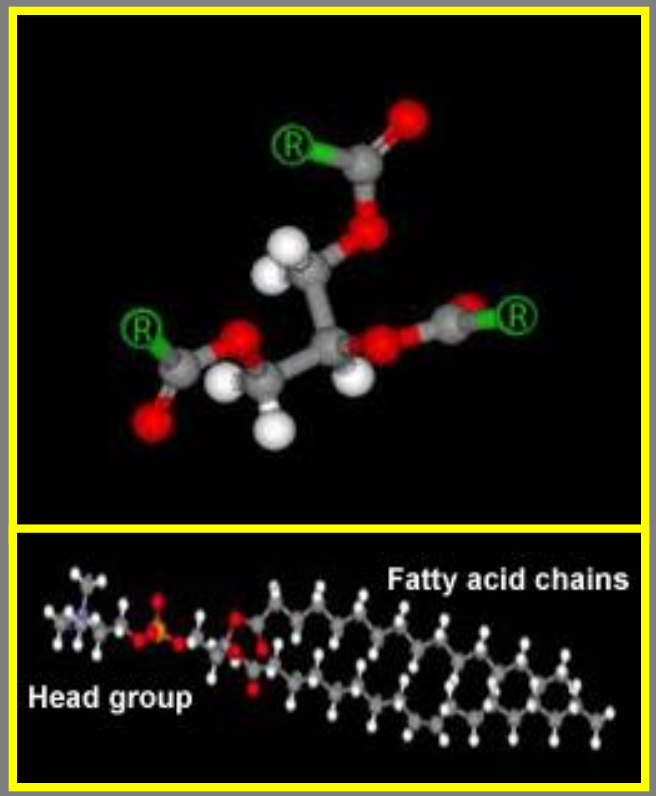
BMI= 19-25



BMI= 25-30



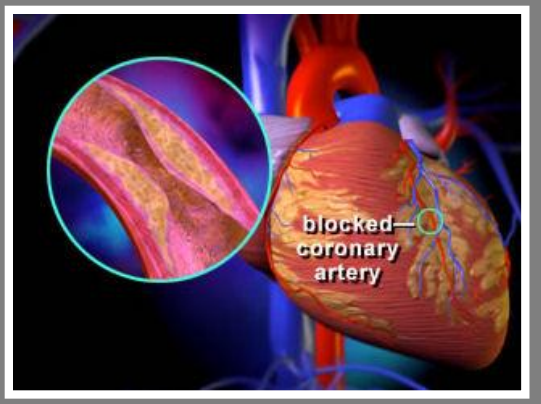
Dyslipidemia



- ↓ HDL-C
- ↑ LDL
- ↑ Triglycerides
- ↓ HDL/triglycerides

3-7-fold Increased relative risk of CAD

After 50ty ⬆ % of women with coronary occlusions

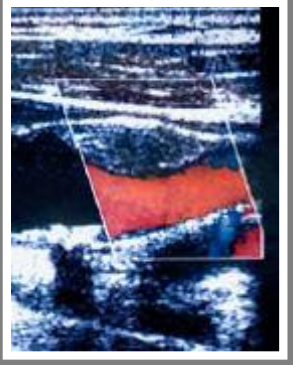


C

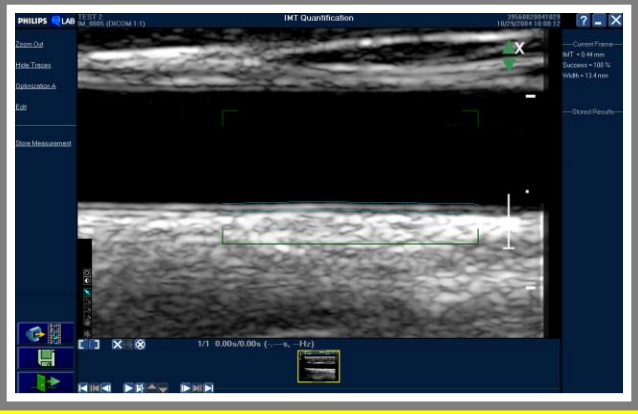
V

D

⬆ % of plaque index of >3



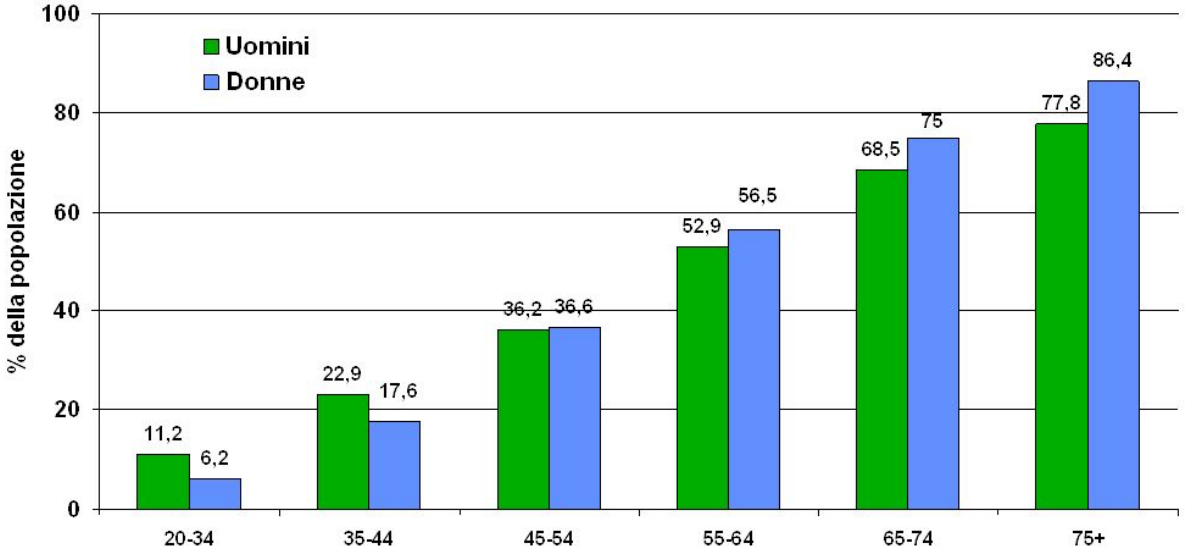
⬆% of the intima media thickness (IMT)



AMERICAN HEART ASSOCIATION

Prevalenza delle malattie cardiovascolare per età e per sesso

71,3 Milioni di americani adulti soffrono di una o più malattie cardiovascolari
(circa il 40% di questi hanno un'età superiore ai 65 anni)



AHA: dati basati sulla popolazione americana stimata in circa 296 milioni di individui

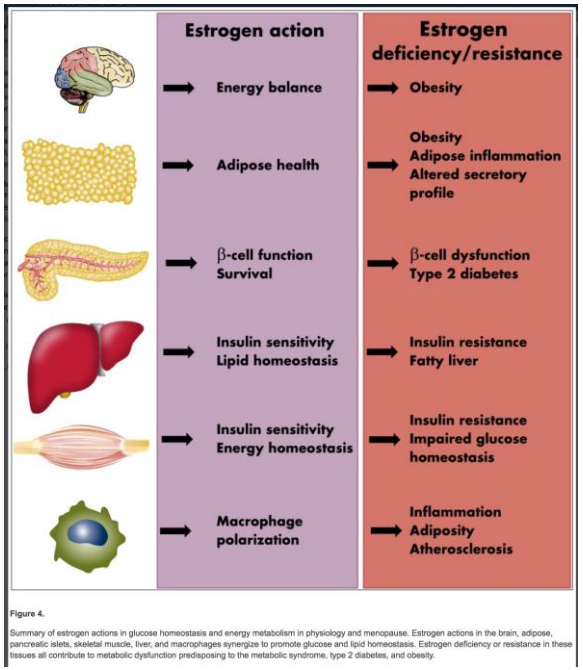
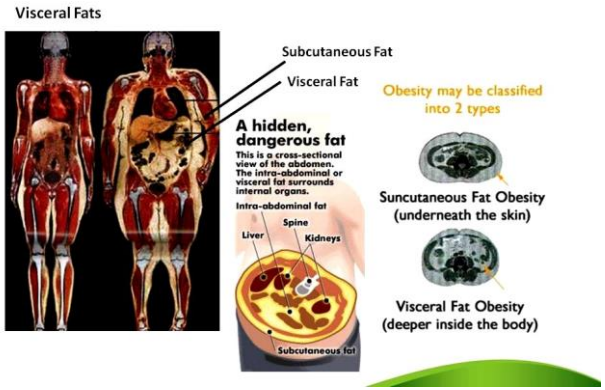
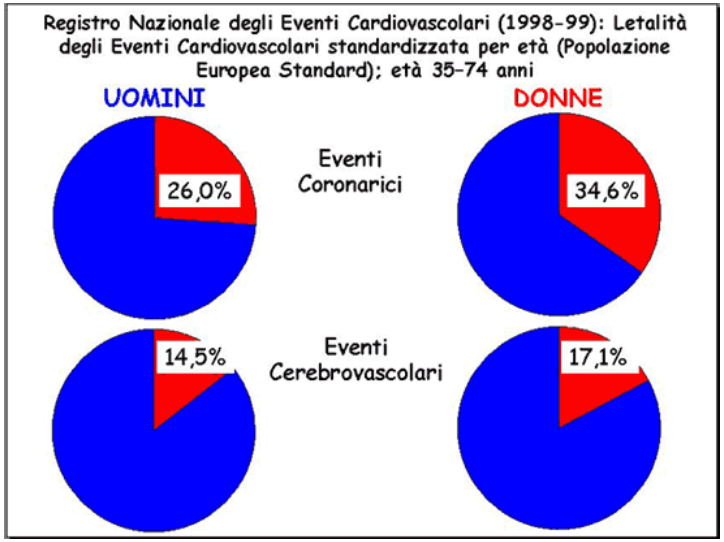


Figure 4.

Summary of estrogen actions in glucose homeostasis and energy metabolism in physiology and menopause. Estrogen actions in the brain, adipose, pancreatic islets, skeletal muscle, liver, and macrophages synergize to promote glucose and lipid homeostasis. Estrogen deficiency or resistance in these tissues all contribute to metabolic dysfunction predisposing to the metabolic syndrome, type 2 diabetes, and obesity.

Heart Disease and Stroke Statistics - 2006 Update. Circulation published online Jan 2006.





OXFORD

JNCI J Natl Cancer Inst (2015) 107(2): djv088

doi:10.1093/jnci/djv088
First published online January 24, 2015
Review

REVIEW

Adult Weight Gain and Adiposity-Related Cancers: A Dose-Response Meta-Analysis of Prospective Observational Studies

NaNa Keum, Darren C. Greenwood, Dong Hoon Lee, Rockli Kim, Dagfinn Aune, Woong Ju, Frank B. Hu, Edward L. Giovannucci

Affiliations of authors: Departments of Nutrition and Epidemiology (NK, DHL, FBH, ELG) and Department of Social and Behavioral Sciences (RK), Harvard School of Public Health, Boston, MA; Division of Biostatistics, University of Leeds, Leeds, UK (DCG); Department of Public Health and General Practice, Faculty of Medicine, Norwegian University of Science and Technology, Trondheim, Norway (DA); Department of Epidemiology and Biostatistics, Imperial College London, London, UK (DA); Department of Obstetrics and Gynecology, Ewha Womans University, Seoul, Republic of Korea (WJ); Channing Division of Network Medicine, Department of Medicine, Brigham and Women's Hospital and Harvard Medical School, Boston, MA (FBH, ELG).

Correspondence to: NaNa Keum, MS, Departments of Nutrition and Epidemiology, Harvard School of Public Health, Building 2, 3rd Floor, 655 Huntington Avenue, Boston, MA, 02115 (e-mail: nak212@mail.harvard.edu).

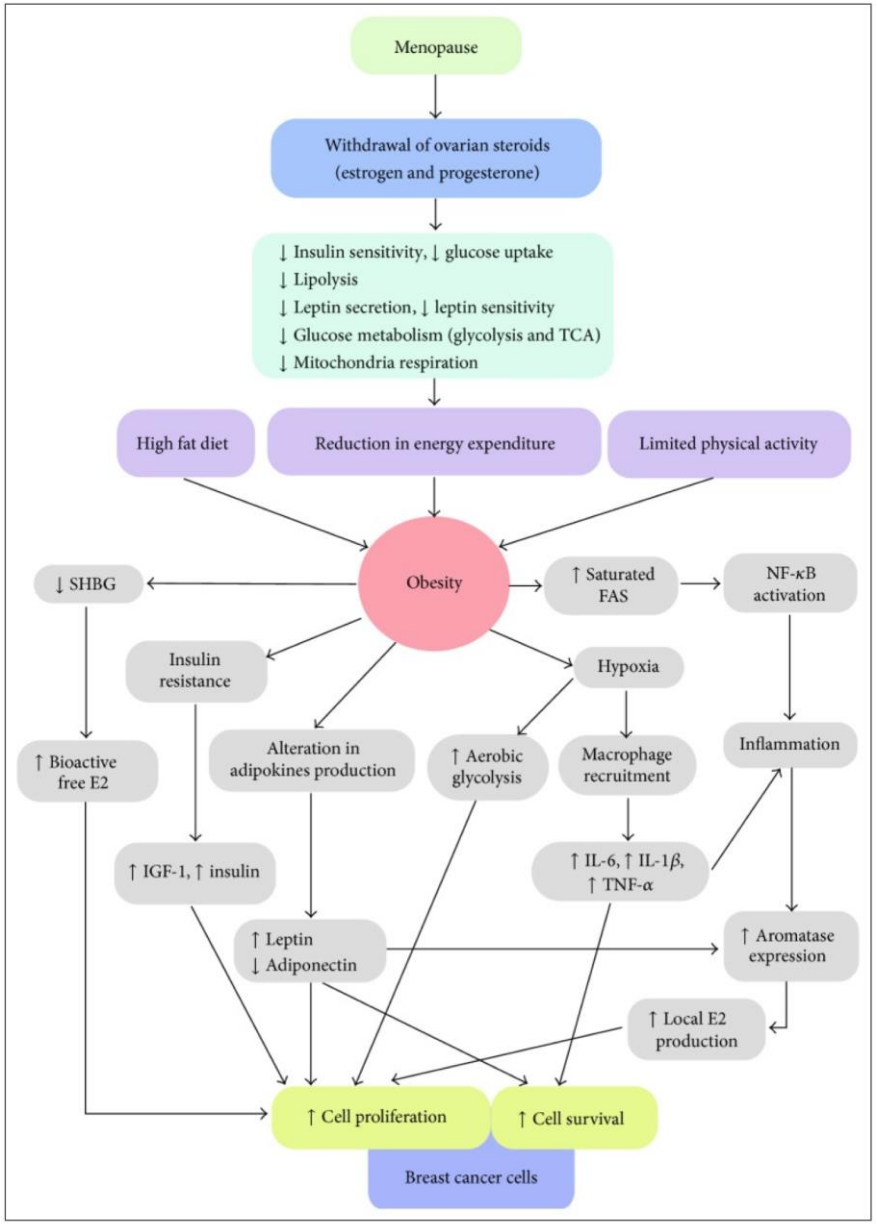
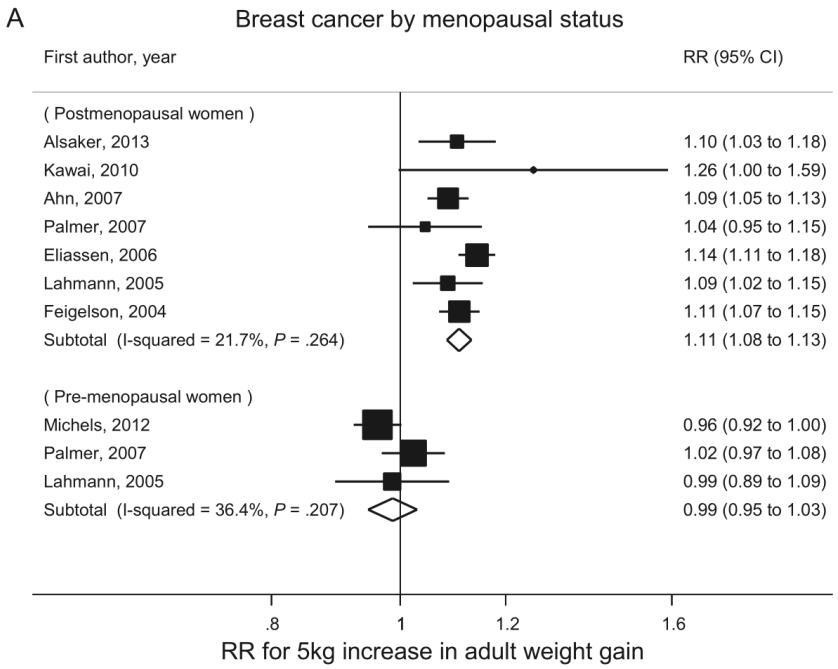
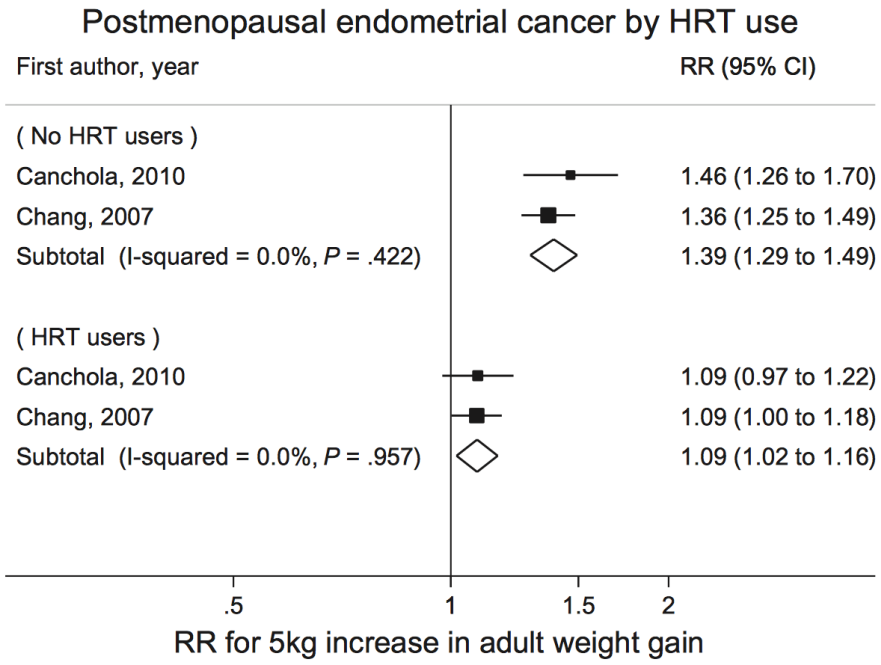
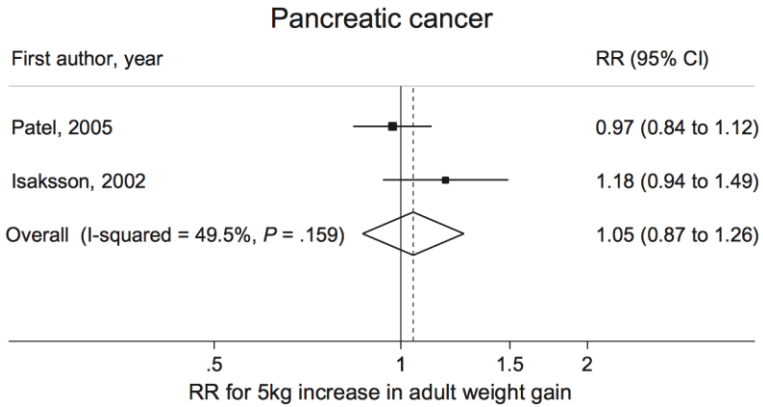


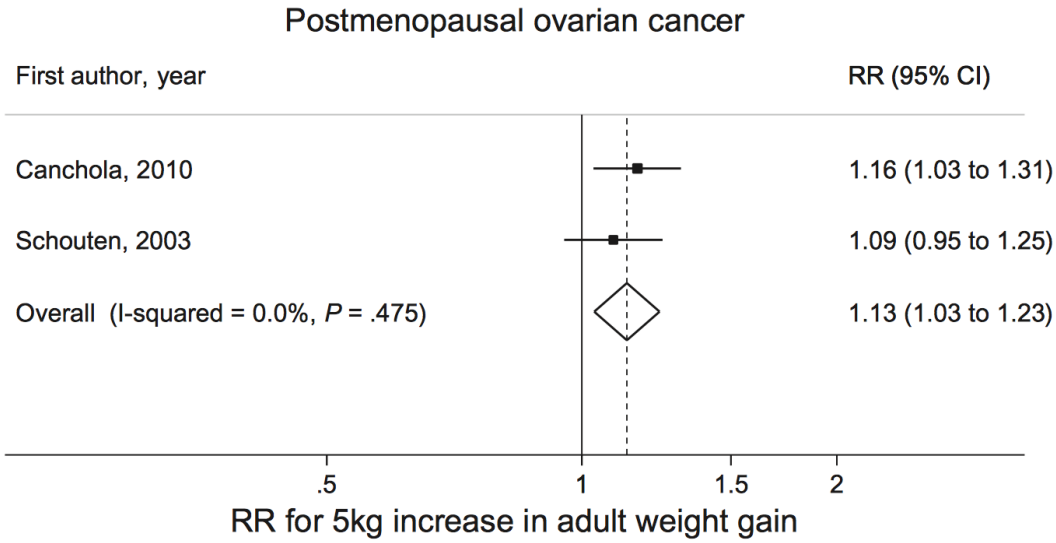
Figure 1

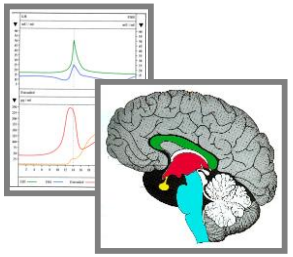
Diagram linking menopause and alterations in cellular metabolism with obesity and breast cancer. FAS: saturated fatty acid; TCA: tricarboxylic acid cycle; TNFα: tumor necrosis factor α; IL-1: interleukin-1; IL-6, interleukin-6; SHBG: sex hormone binding globulin; E2: estradiol; IGF-1: insulin-like-growth-factor-1.




Postmenopausal endometrial cancer by HRT use
First author, year
RR (95% CI)
(No HRT users)
Canchola, 2010
1.46 (1.26 to 1.70)
Chang, 2007
1.36 (1.25 to 1.49)
Subtotal (I-squared = 0.0%, P = .422)
1.39 (1.29 to 1.49)
(HRT users)
Canchola, 2010
1.09 (0.97 to 1.22)
Chang, 2007
1.09 (1.00 to 1.18)
Subtotal (I-squared = 0.0%, P = .957)
1.09 (1.02 to 1.16)
.5
1
1.5
2
RR for 5kg increase in adult weight gain


Pancreatic cancer
First author, year
RR (95% CI)
Patel, 2005
0.97 (0.84 to 1.12)
Isaksson, 2002
1.18 (0.94 to 1.49)
Overall (I-squared = 49.5%, P = .159)
1.05 (0.87 to 1.26)
.5
1
1.5
2
RR for 5kg increase in adult weight gain


Postmenopausal ovarian cancer
First author, year
RR (95% CI)
Canchola, 2010
1.16 (1.03 to 1.31)
Schouten, 2003
1.09 (0.95 to 1.25)
Overall (I-squared = 0.0%, P = .475)
1.13 (1.03 to 1.23)
.5
1
1.5
2
RR for 5kg increase in adult weight gain



Menopausa e Terapia Ormonale Sostitutiva:

Linee Guida

I.S.G.E.
International Society of Gynecological Endocrinology

Conferenza Nazionale di Villa Tuscolana

Frascati, 2007

INDICAZIONI ALLA HRT-ERT

- Sintomi vasomotori
- Sintomi urogenitali da atrofia
- Prevenzione dell'osteoporosi e fratture correlate

VANTAGGI ACCERTATI o BENEFICI DELLA HRT-ERT

Prevenzione dell'atrofia:

- Epiteli
- Pelle
- Tessuto connettivo
- Dischi intervertebrali

- Modificazioni del tono dell'umore
- Riduzione della libido
- Disturbi del sonno
- Riduzione del rischio del carcinoma del colon-retto
- Dolori muscoloscheletrici
- Incontinenza urinaria da urgenza

POTENZIALI BENEFICI DELLA HRT-ERT

- Miglioramento di molti aspetti della sindrome metabolica
- Riduzione del rischio di diabete
- Riduzione del rischio di demenza di Alzheimer, se iniziata al momento della menopausa
- Riduzione del rischio di malattia coronarica, se iniziata al momento della menopausa

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PAPER

Effects of hormone replacement therapy on weight, abdominal fat distribution, and lipid levels in Japanese postmenopausal women

H Sumino[1]*, S Ichikawa[2], A Yoshida[3], M Murakami[3], T Kanda[4], H Mizunuma[5], T Sakamaki[6] and M Kurabayashi[1]

[1]*Second Department of Internal Medicine, Gunma University School of Medicine, Maebashi, Japan;* [2]*Cardiovascular Hospital of Central Japan, Gunma, Japan;* [3]*Department of Laboratory Medicine, Gunma University School of Medicine, Maebashi, Japan;* [4]*Department of General Medicine, Kanazawa Medical University, Kanazawa, Japan;* [5]*Department of Obstetrics and Gynecology, Hirosaki University School of Medicine, Hirosaki, Japan; and* [6]*Medical Informatics and Decision Sciences, Gunma University School of Medicine, Maebashi, Japan*

OBJECTIVE: To investigate the effects of hormone replacement therapy (HRT) on weight, abdominal fat distribution, and fasting lipid levels in Japanese postmenopausal women (PMW).
DESIGN: Prospective, 12-month-controlled clinical comparison of women with and without HRT.
SUBJECTS: In all, 35 PMW with HRT (conjugated estrogens, 0.625 mg daily; medroxyprogesterone acetate, 2.5 mg daily; HRT group) and 26 PMW without HRT (control group).
MEASUREMENTS: Weight, abdominal fat distribution by computed tomographic measurements, lipid profiles, and sex hormones were determined at baseline and after 12 months of treatment or observation.
RESULTS: Weight did not change in any group. Visceral abdominal fat increased in controls, but not in the HRT group. Total and low-density lipoprotein cholesterol decreased, and triglyceride (TG) and high-density lipoprotein cholesterol increased in the HRT group; these did not change in the control group. When we divided women into those with android and gynoid types of abdominal fat distribution. Subjects with an android distribution showed reduced visceral fat with HRT, which also decreased the proportion of patients maintaining an android distribution. HRT did not alter abdominal fat distribution in subjects with a gynoid distribution. HRT increased serum TG in the android and the gynoid subgroups.
CONCLUSION: Improved distribution of abdominal fat and fasting lipid levels except for TG may represent beneficial effects of HRT with respect to cardiovascular disease, but caution is warranted concerning TG elevation from HRT performed in PMW.
International Journal of Obesity (2003) **27**, 1044–1051. doi:10.1038/sj.ijo.0802371

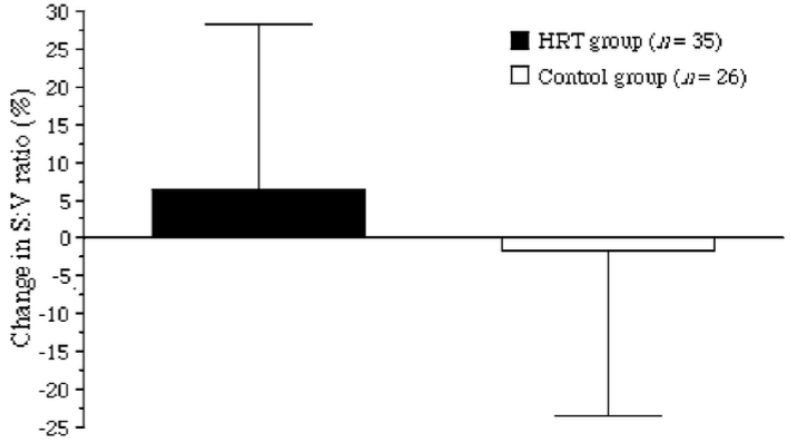
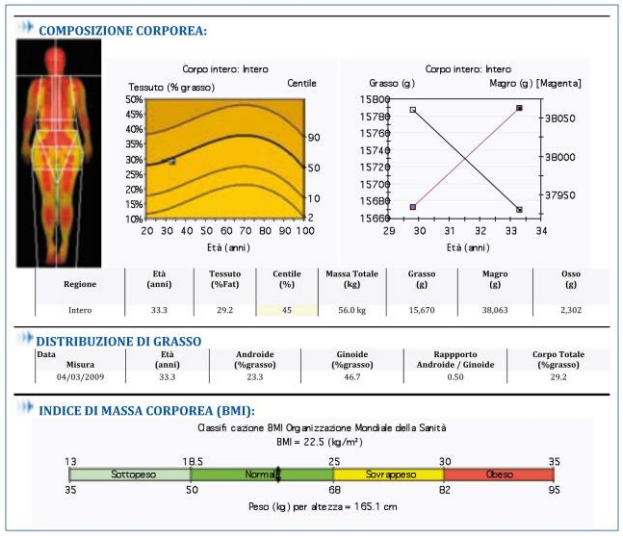


Figure 1 Percent changes in subcutaneous-to-visceral (S:V) ratios for abdominal fat in PMW who received HRT, and in PMW who did not receive HRT (control group), during 1 y of treatment/observation. Closed and open columns indicate percent changes in the S:V ratio for abdominal fat in the HRT group and the control group, respectively. Data are expressed as means ±s.d.

Figura 1



doi: 10.1111/j.1463-1326.2005.00545.x

Meta-analysis: effect of hormone-replacement therapy on components of the metabolic syndrome in postmenopausal women

S. R. Salpeter,[1,2] J. M. E. Walsh,[3] T. M. Ormiston,[2] E. Greyber,[2] N. S. Buckley[4] and E. E. Salpeter[5]

[1]Stanford University School of Medicine, Stanford, CA, USA
[2]Santa Clara Valley Medical Center, San Jose, CA, USA
[3]University of California, San Francisco, CA, USA
[4]Sequoia High School, Redwood City, CA, USA
[5]Cornell University, Ithaca, NY, USA

Aim: To quantify the effects of hormone-replacement therapy (HRT) on components of the metabolic syndrome in postmenopausal women.

Methods: Comprehensive searches of electronic databases were performed from April 1966 to October 2004. We included randomized controlled trials that were of at least 8 weeks duration and evaluated the effect of HRT on metabolic, inflammatory or thrombotic components. Insulin resistance was calculated by homeostasis model assessment (HOMA-IR). Subgroup analysis evaluated the effects for transdermal and oral treatment and for diabetic and non-diabetic women.

Results: Pooled results of 107 trials showed that HRT reduced abdominal fat [−6.8% (CI, −11.8 to −1.9%)], HOMA-IR [−12.9% (CI, −17.1 to −8.6%)] and new-onset diabetes [relative risk 0.7 (CI, 0.6–0.9)] in women without diabetes. In women with diabetes, HRT reduced fasting glucose [−11.5% (CI, −18.0 to −5.1%)] and HOMA-IR [−35.8% (CI, −51.7 to −19.8%)]. HRT also reduced low-density lipoprotein/high-density lipoprotein cholesterol ratio [−15.7% (CI, −18.0 to −13.5%)], lipoprotein(a) [Lp(a)] [−25.0% (CI, −32.9 to −17.1%)], mean blood pressure [−1.7% (CI, −2.9 to −0.5%)], E-selectin [−17.3% (CI, −22.4 to −12.1%)], fibrinogen [−5.5% (CI, −7.8 to −3.2%)] and plasminogen activator inhibitor-1 [−25.1% (CI, −33.6 to −15.5%)]. Oral agents produced larger beneficial effects than transdermal agents, but increased C-reactive protein (CRP) [37.6% (CI, 17.4–61.3%)] and decreased protein S [−8.6% CI, −13.1 to −4.1%)], while transdermal agents had no effect.

Conclusions: HRT reduces abdominal obesity, insulin resistance, new-onset diabetes, lipids, blood pressure, adhesion molecules and procoagulant factors in women without diabetes and reduced insulin resistance and fasting glucose in women with diabetes. Oral agents adversely affected CRP and protein S, while transdermal agents had no effects.

Keywords: hormone-replacement therapy, meta-analysis, metabolic syndrome, women
Received 6 June 2005; returned for revision 28 July 2005; revised version accepted 29 July 2005

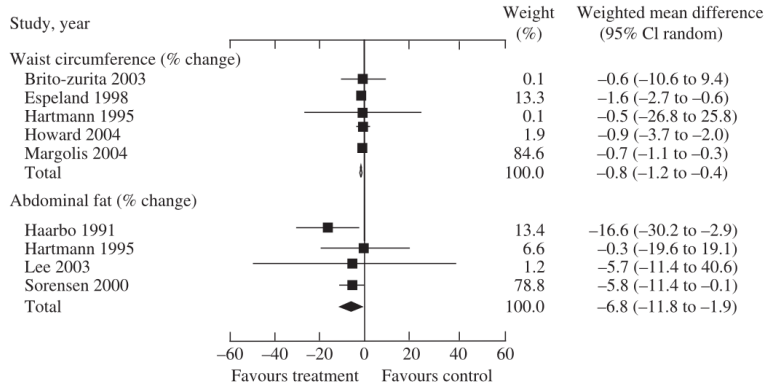


Fig. 1 Effect of hormone-replacement therapy on abdominal obesity in women without diabetes. Waist circumference and abdominal fat (% change) values are given.

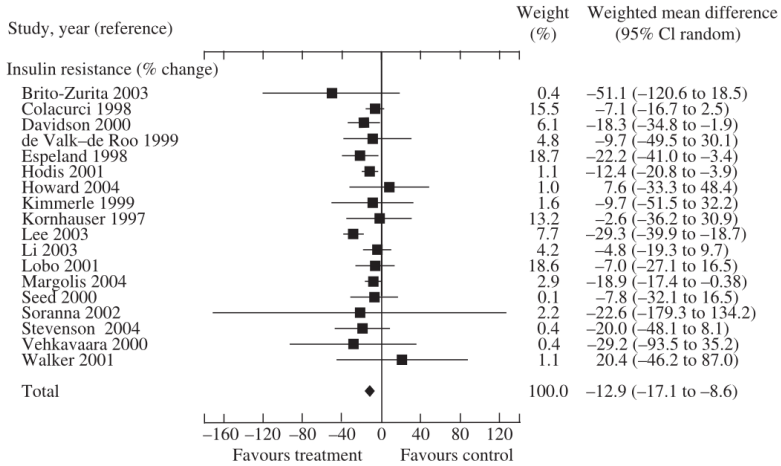


Fig. 2 Effect of hormone-replacement therapy on calculated insulin resistance in women without diabetes (% change).

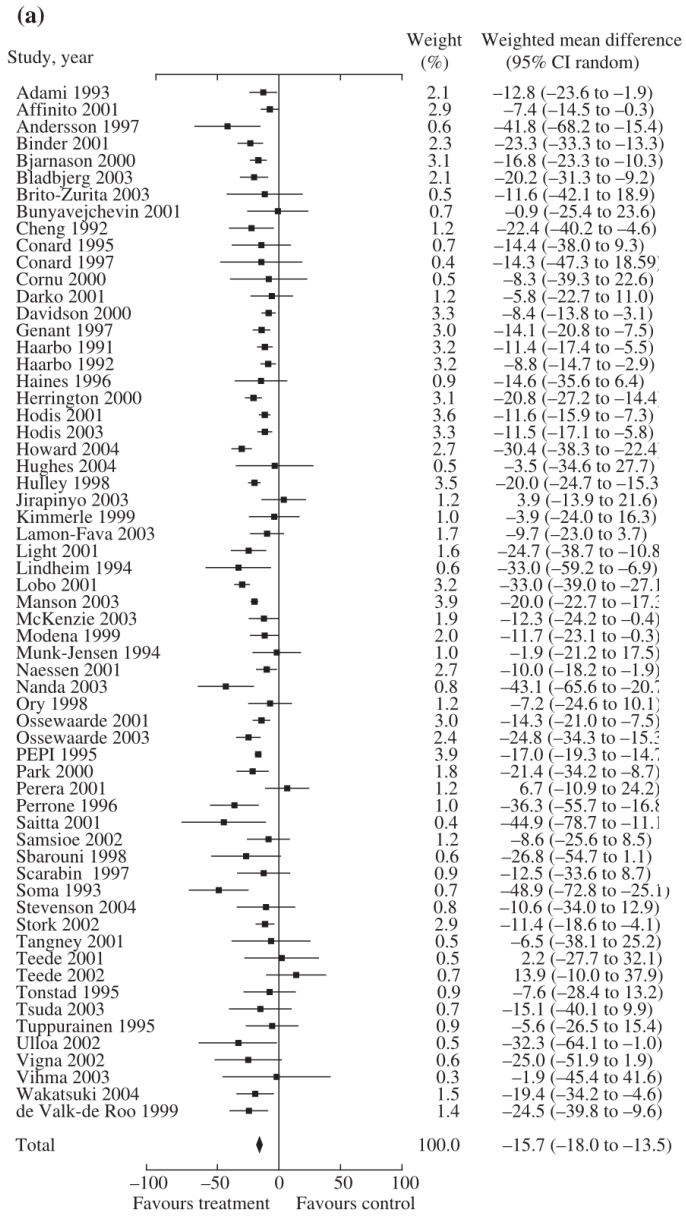


Fig. 3 Effect of hormone-replacement therapy on lipids in women without diabetes: (a) low-density lipoprotein/high-density lipoprotein cholesterol ratio (% change); (b) triglyceride (% change).

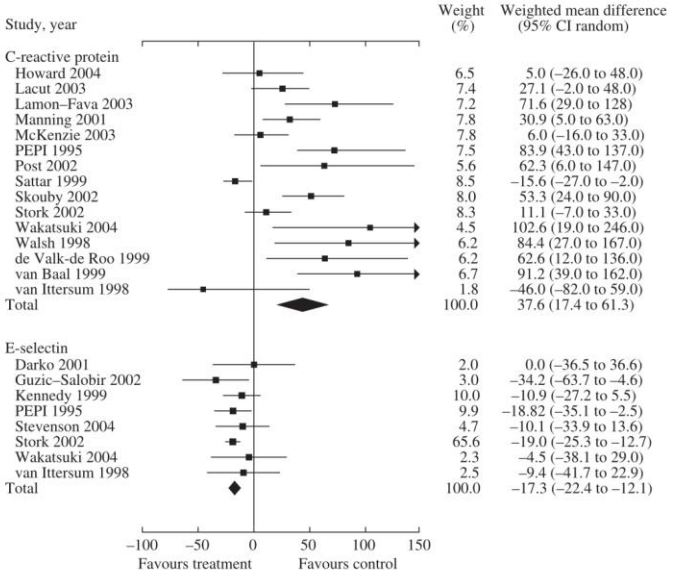


Fig. 4 Effect of hormone-replacement therapy on inflammatory components in women without diabetes. C-reactive protein and E-selectin (% change) values are given.

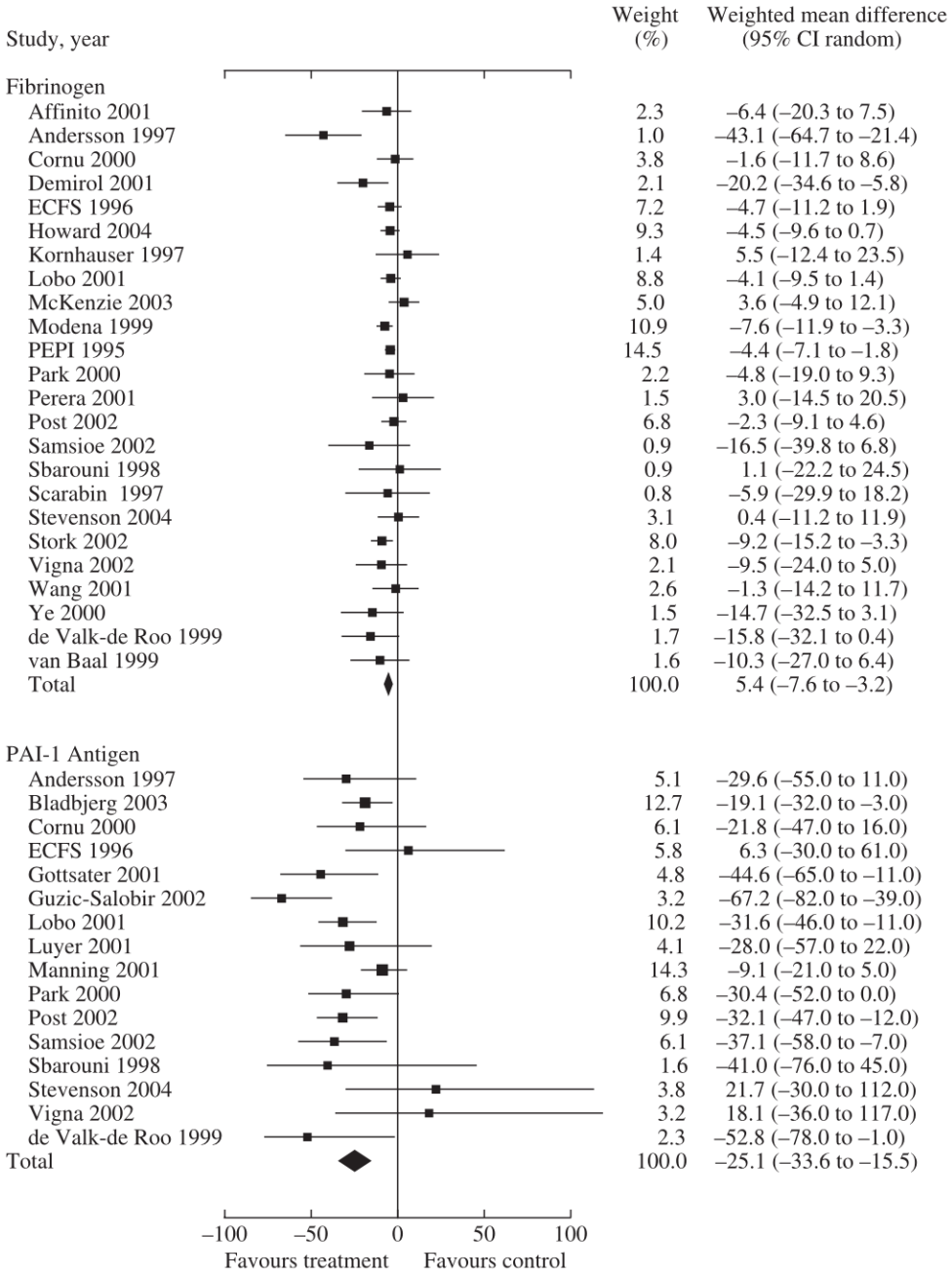
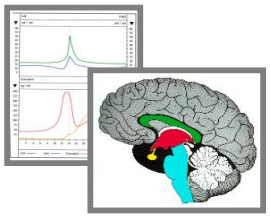


Fig. 5 Effect of hormone-replacement therapy on procoagulant factors in women without diabetes. Fibrinogen and plasminogen activator inhibitor-1 (PAI-1) (% change) are given.



CONCLUSIONS

It would seem prudent to reccomend lifestyle modifications (i.e. stop of smoking, caloric controlled diet, increase physical activity –specially aerobic-, decrease salt loading, and job or marital/familial stress) during menopausal transition and postmenopause

HT, Orlistat, Sibutramine, Rimonabant, Metformin, Hata Yoga, Herbal Medicine, Acupunture, Bariatric Surgery are second step treatments