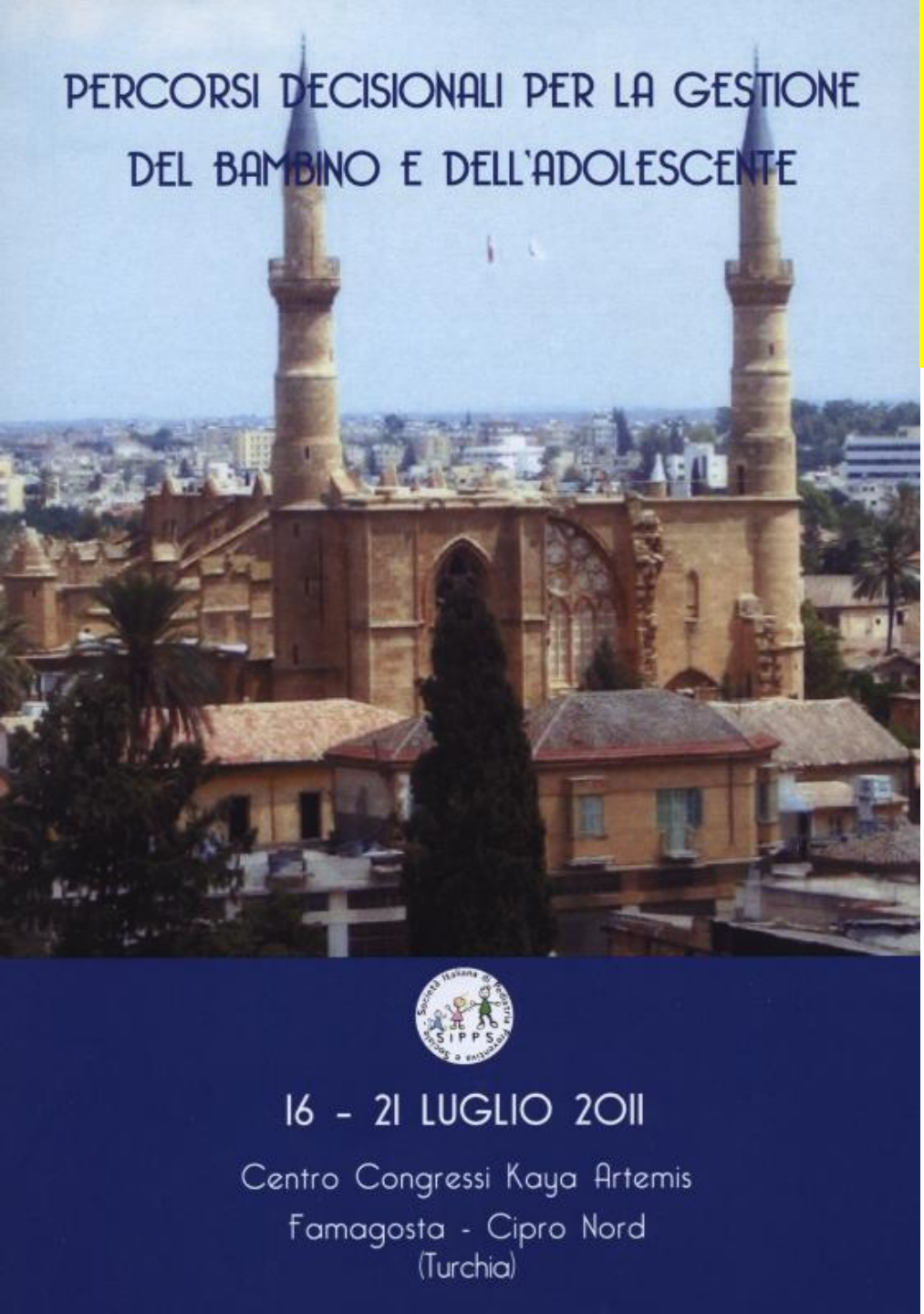


S. BERNASCONI

CLINICA PEDIATRICA

UNIVERSITA' DI PARMA

LE VARIANTI DELLA PUBERTA'

sbernasconi@ao.pr.it

Motivi di invio ad un centro specialistico di 2-3° livello (%)

ATTIVITA' ENDOCRINOLOGIA PEDIATRICA CLINICA PEDIATRICA PARMA

CIRCA 3000 VISITE E 500 TEST FUNZIONALI / ANNO

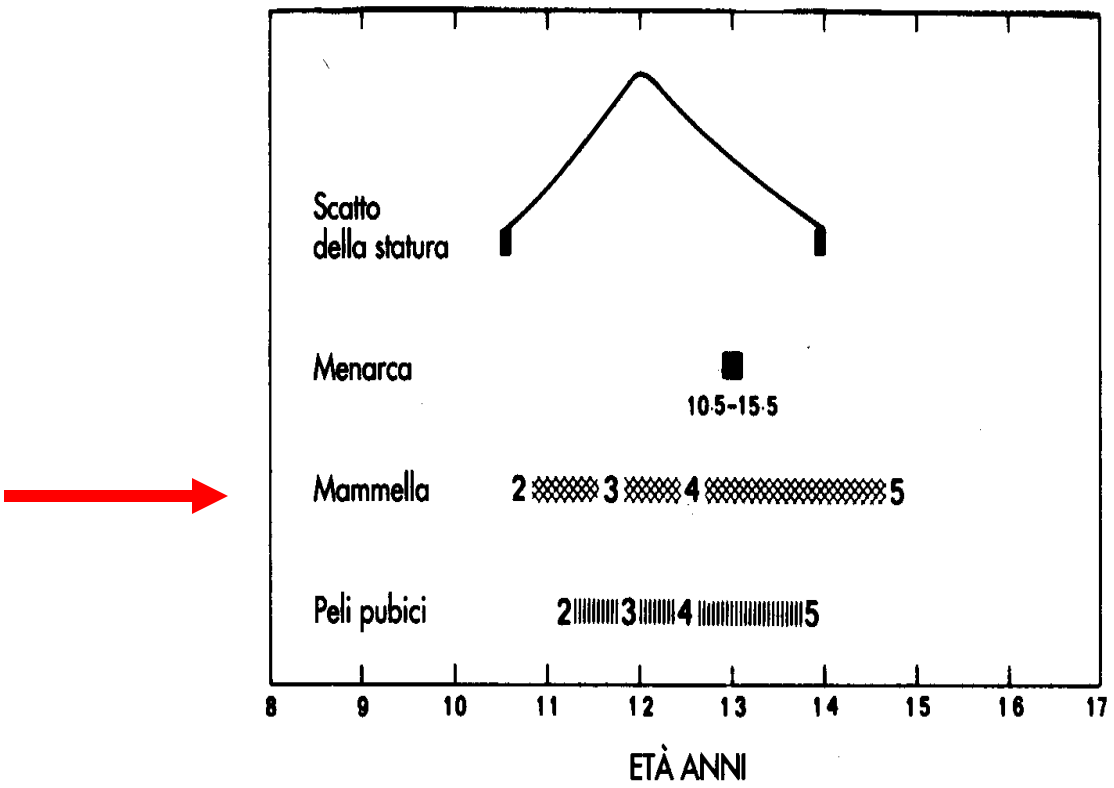
- ***Ambulatorio disturbi nutrizionali***
- ***Centro regionale diabetologia pediatrica***

- Anomala crescita staturale 40
- Alterazioni della pubertà 20
- Tireopatie 15

TELARCA PREMATURO

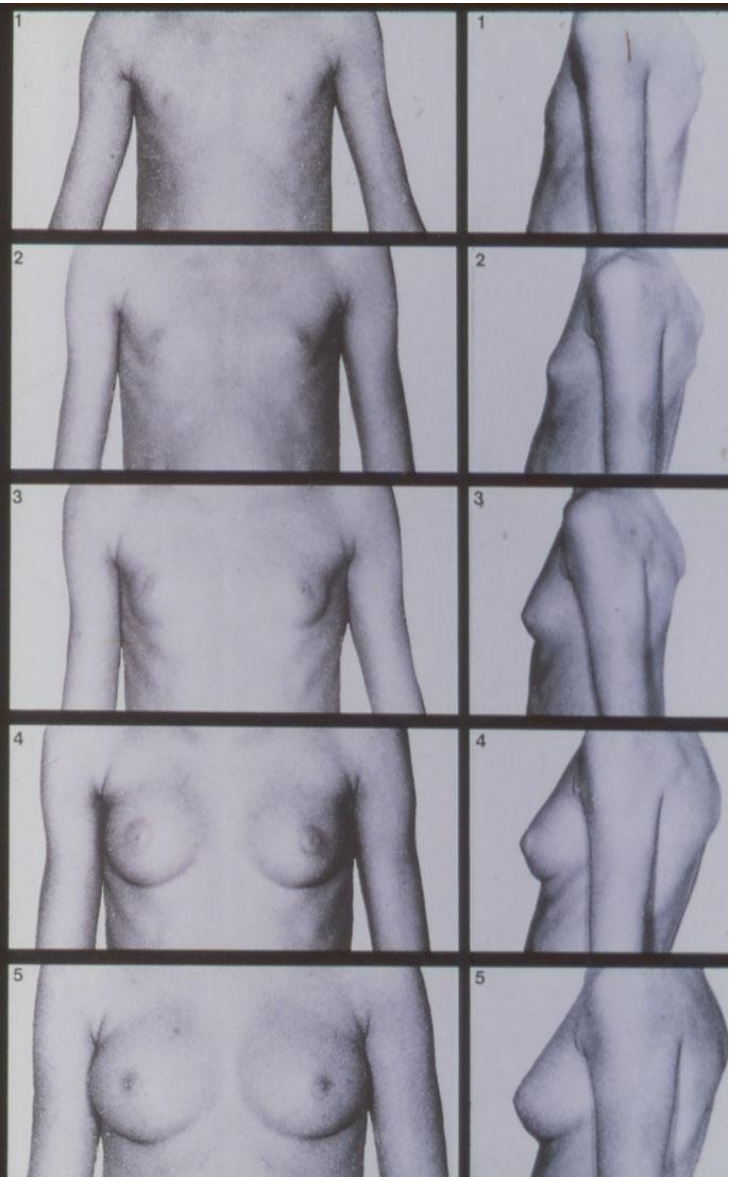
1) Quando consideriamo precoce la comparsa di un telarca ?

TELARCA



Stadi puberali nella femmina secondo Tanner et al

TELARCA



PREPUBERE

Stadio B1

Stadio B2: 11.1 aa
(range 8.0-13.2 aa)

Stadio B3: 12.1 aa
(range 10.0-14.3 aa)

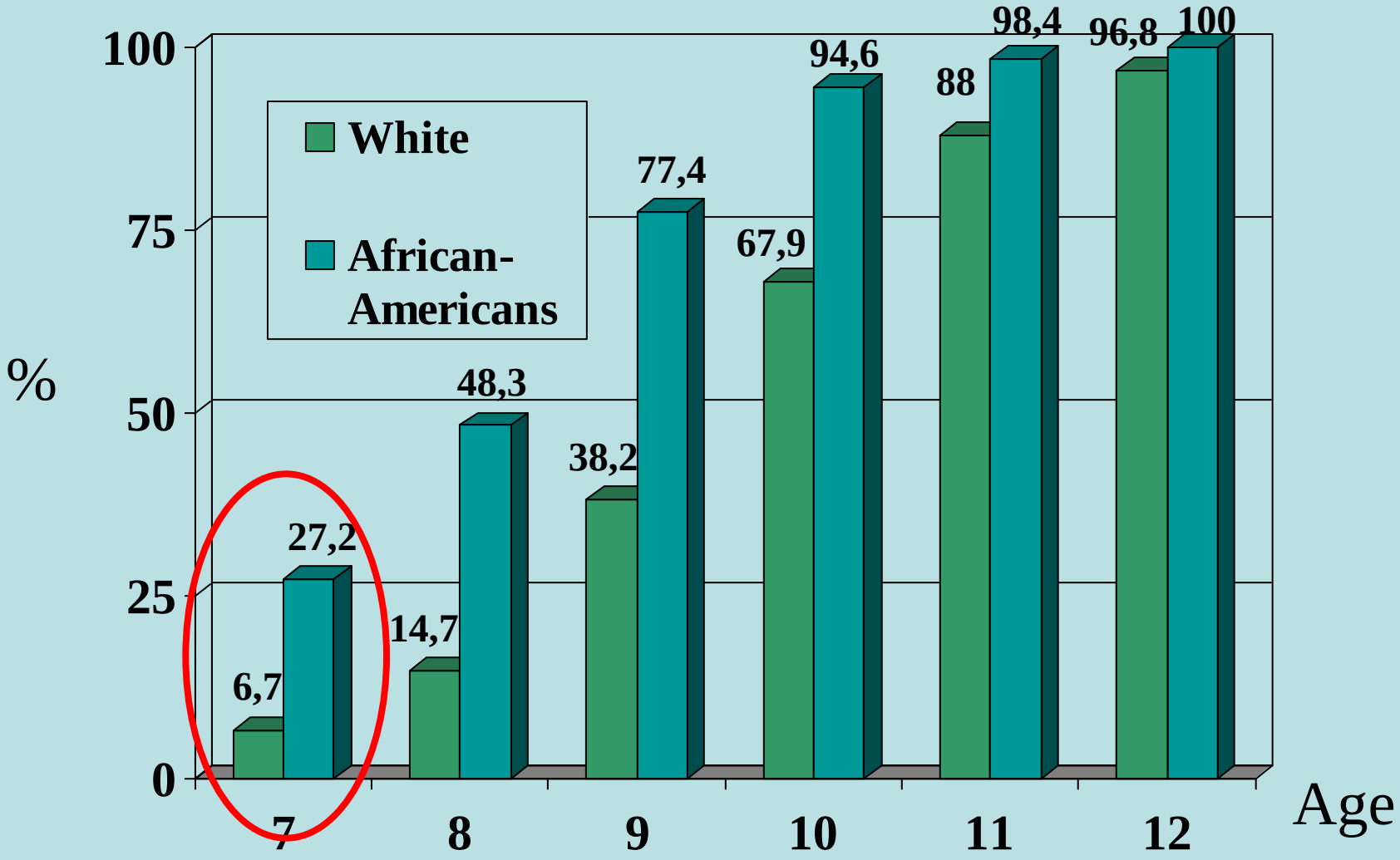
Stadio B4: 13.1 aa
(range 10.8-15.3 aa)

Stadio B5: 15.3 aa
(range 11.8-18.8 aa)

ADULTO

Secular trend

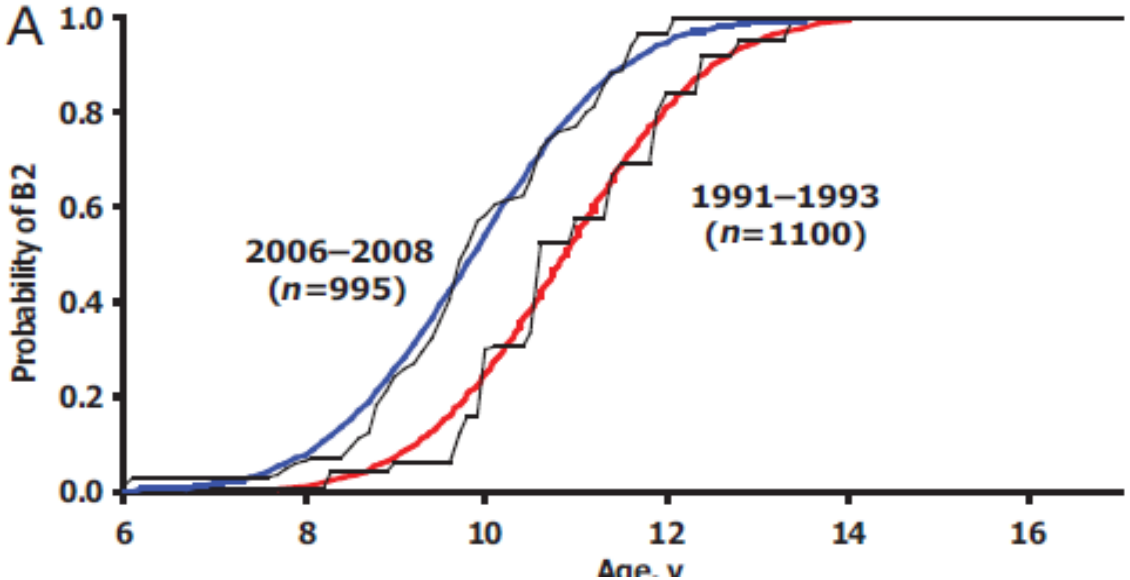
Prevalence of breast and/or pubic hair development at Tanner stage 2 or greater (17,077 girls)



Herman – Giddens ME et al., Pediatrics,1997

TELARCA

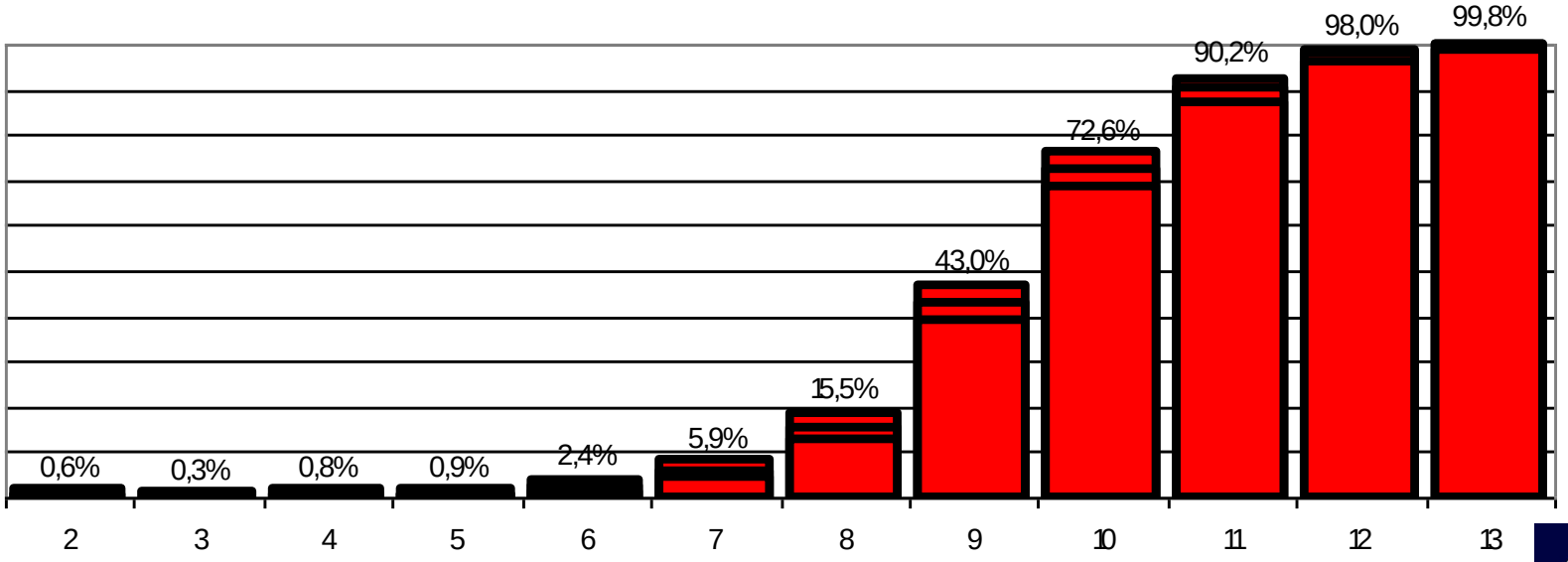
Recent Decline in Age at Breast Development: The Copenhagen Puberty Study
Lise Aksglaede, Kaspar Sørensen, Jørgen H. Petersen, Niels E. Skakkebæk and Anders Juul
Pediatrics 2009;123;e932



TELARCA

- 2 DS	media	+ 2 DS
7.09 aa	9.73 aa	12.36 aa

Prevalenza dello sviluppo puberale M stadio ≥ 2 (con IC al 95%)



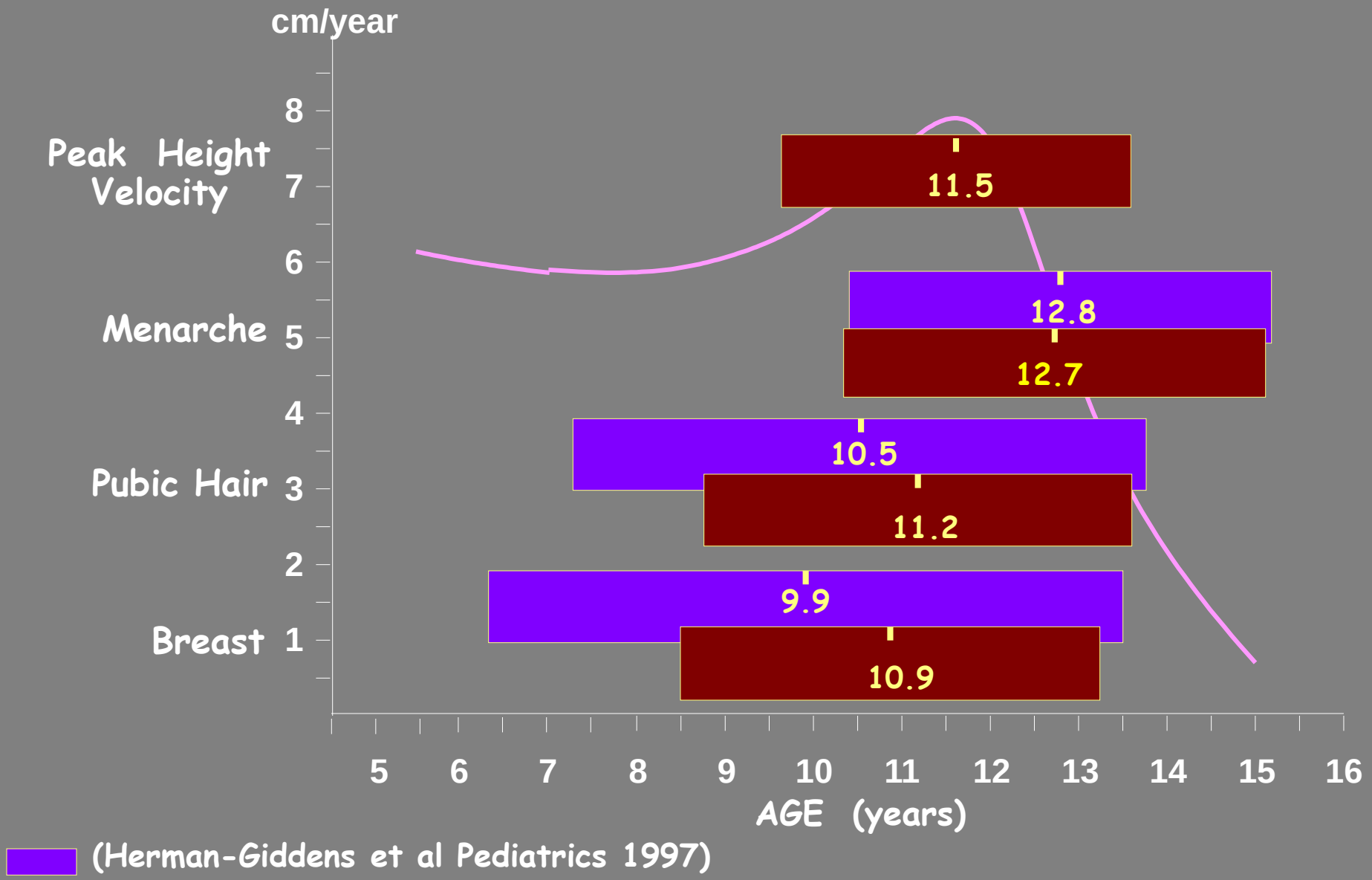
TELARCA

Are Pubertal Changes in Girls Before Age 8 Benign?
L. Kurt Midyett, Wayne V. Moore and Jill D. Jacobson
Pediatrics 2003;111;47

TABLE 2. Diagnoses in 212 Girls, Between the Ages of 6 and 8, Who Were Referred to Pediatric Endocrine Subspecialists for Signs of Early Puberty

	Breast Development (n = 24)	Pubic Hair Development (n = 83)	Breast and Pubic Hair (n = 105)
Idiopathic	23 (95.80%)	70 (84.40%)	93 (88.55%)
Acanthosis Nigricans/hyperinsulinism	1 (4.20%)	7 (8.40%)	7 (6.70%)
Hypothyroidism	0	3 (3.60%)	1 (0.95%)
Neurofibromatosis type 1	0	0	1 (0.95%)
Growth hormone deficiency	0	1 (1.20%)	1 (0.95%)
Pituitary adenoma	0	0	1 (0.95%)
McCune-Albright syndrome	0	1 (1.20%)	1 (0.95%)
Congenital adrenal hyperplasia	0	1 (1.20%)	0

Comparison between "OLD" ( ) & "NEW" ( ) data on the Appearance and Sequence of Pubertal Signs in the Female



(Herman-Giddens et al Pediatrics 1997)

TELARCA

Update on Age at Menarche in Italy: Toward the Leveling Off of the Secular Trend

Franco Rigon, M.D.[a], Luigi Bianchin, M.D.[b], Sergio Bernasconi, M.D.[c], Gianni Bona, M.D.[d], Mauro Bozzola, M.D.[e], Fabio Buzi, M.D.[f], Alessandro Cicognani, M.D.[g], Carlo De Sanctis, M.D.[h], Vincenzo De Sanctis, M.D.[i], Giorgio Radetti, M.D.[j], Luciano Tatò, M.D.[k], Giorgio Tonini, M.D.[l], and Egle Perissinotto, Sc.D.[m,*]

Journal of Adolescent Health 2009

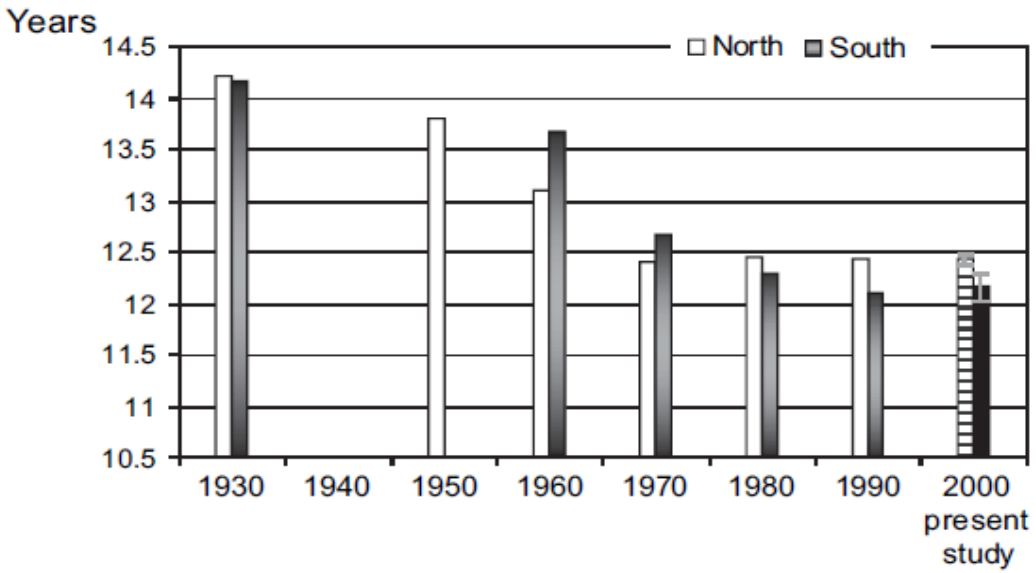


Figure 2. Secular trend for age at menarche in northern and southern Italy. Grey vertical lines represent 95% CI for the results of the present survey.

TELARCA

Diagnostic Work-Up of 449 Consecutive Girls Who Were Referred to be Evaluated for Precocious Puberty

J Clin Endocrinol Metab 96: 1393–1401, 2011

Signe Sloth Mogensen, Lise Aksglaede, Annette Mouritsen, Kaspar Sørensen, Katharina M. Main, Peter Gideon, and Anders Juul

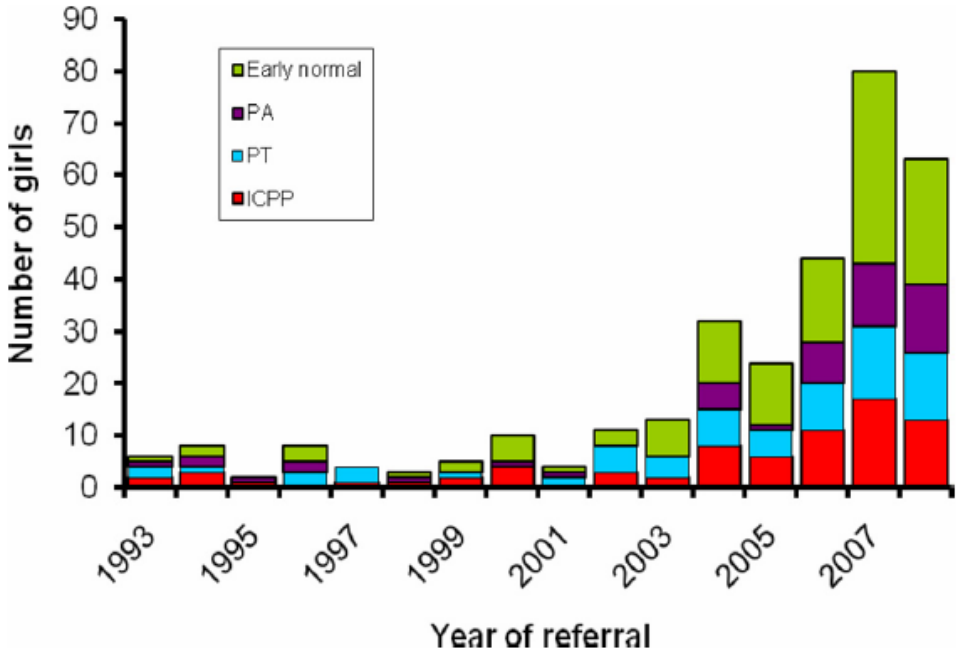


FIG. 2. Number of girls per year diagnosed with ENV puberty, PA, PT, and ICPP according to year of referral (1993–2008) in a single tertiary pediatric endocrine center.

TELARCA

1) Quando consideriamo precoce la comparsa di un telarca ?

2) Quali i motivi di anticipo del telarca?

TELARCA

Recent data on pubertal milestones in United States children: the secular trend toward earlier development

Marcia E. Herman-Giddens

international journal of andrology 2006

Table 7 Earlier puberty: theories and speculations

- Genetic differences among racial/ethnic groups
- Overweight and obesity, decreased physical activity
- Pre- and postnatal exposure to endocrine disrupter chemicals
- Infant soy-based formulas
- Girls born small for gestational age
- Stress, absent fathers, unrelated males in the household
- Effects of different types of diet
- Exogenous hormones
- Hypersexualization of culture

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TELARCA

Weight Status in Young Girls and the Onset of Puberty

Pediatrics 2007

Joyce M. Lee, MD, MPH[a,b], Danielle Appugliese, MPH[c], Niko Kaciroti, PhD[d], Robert F. Corwyn, PhD[e], Robert H. Bradley, PhD[e], Julie C. Lumeng, MD[d,f]

TABLE 1 Descriptives and Bivariate Comparisons for the Sample According to Puberty Status at Grade 4

Variable	Total ($n = 354$)	Earlier Puberty (Tanner Stage ≥2; $n = 168$)	Later Puberty (Tanner Stage <2; $n = 186$)	*P*
Age, mean (SD), y	9.6 (0.1)	9.6 (0.1)	9.6 (0.1)	.36
Race, *n* (%)				.002
White	291 (82.2)	127 (75.6)	164 (88.2)	—
Nonwhite	63 (17.8)	41 (24.4)	22 (11.8)	—
Maternal education, mean (SD), y	14.6 (2.3)	14.3 (2.2)	14.8 (2.5)	.03
ITN ratio, mean (SD)	3.7 (3.1)	3.5 (3.2)	3.9 (3.2)	.21
Age of maternal menarche, mean (SD), y	12.7 (1.5)	12.5 (1.4)	12.9 (1.5)	.01
Weight status, *n* (%)				
Normal weight (BMI <85th percentile)	257 (72.6)	102 (60.7)	155 (83.3)	<.0001
At risk for overweight (85th ≤ BMI < 95th percentile)	52 (16.8)	30 (22.7)	22 (12.4)	.02
Overweight (BMI ≥ 95th percentile)	45 (12.7)	36 (21.4)	9 (4.8)	<.0001

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TELARCA

Endocrine disrupting chemicals: a new and emerging public health problem?

C L Acerini, I A Hughes

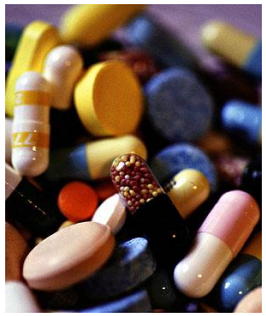
Arch. Dis. Child. 2006

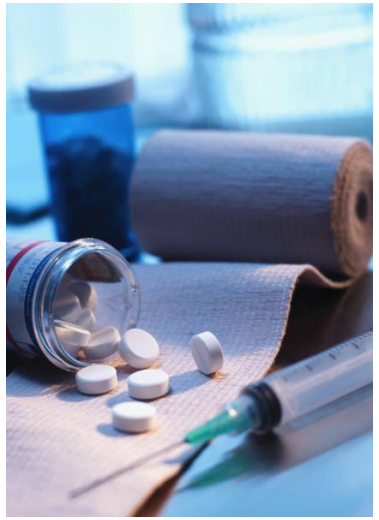
Table 2 Endocrine disrupting chemicals: example of the known principal categories, their sources, and main contamination routes in humans

Category	Example	Source	Contamination route
Pesticides	2,4 Dichlorophen-oxyacetic acid	Herbicide	Foods: fruit/veg
	Hexachlorobenzene	Fungicides	Foods: fruit/veg, cereals
	Tributyltin		Water
	Benomyl/carbendazium		
	Vinclazolin		
	Malathion	Insecticides	Foods: fruit/veg
	Carbaryl		
	DDT (and metabolites DDE, DDD)		
	Aldrin		
Industrial chemicals	Bisphenol A	Plastics	Plastic items
		Polystyrene	Drinks
			Foods: packaging
	PCBs	Electrical: waste byproducts	Foods: fish/meat, dairy items
	Alkylphenols	Detergents	Household items
		Emulsifiers	Water
		Fertilisers	Foods: fish
	Phthalates esters	Plastics	Plastic items
			Drinks
			Foods: packaging
Natural plant compounds	Phytoestrogens, eg genistein, coumestrol	Soya Legumes/ beans	Food/diet

TELARCA

Dove si trovano gli ftalati?





TELARCA

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	Carbaryl		
	DDT (and metabolites DDE, DDD)		
	Aldrin		
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			Foods: packaging
Natural plant compounds	Phytoestrogens, eg genistein, coumestrol	Soya Legumes/ beans	Food/diet

TELARCA

Identification of Phthalate Esters in the Serum of Young Puerto Rican Girls with Premature Breast Development

Ivelisse Colón,[1] Doris Caro,[1] Carlos J. Bourdony,[2,3] and Osvaldo Rosario[1]

Environ Health Perspect 2000

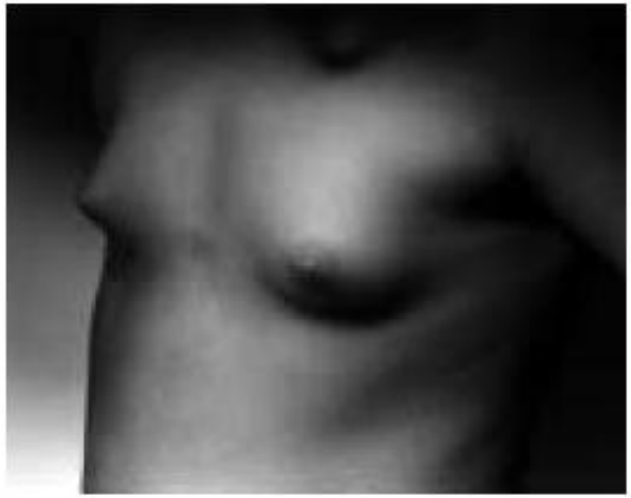
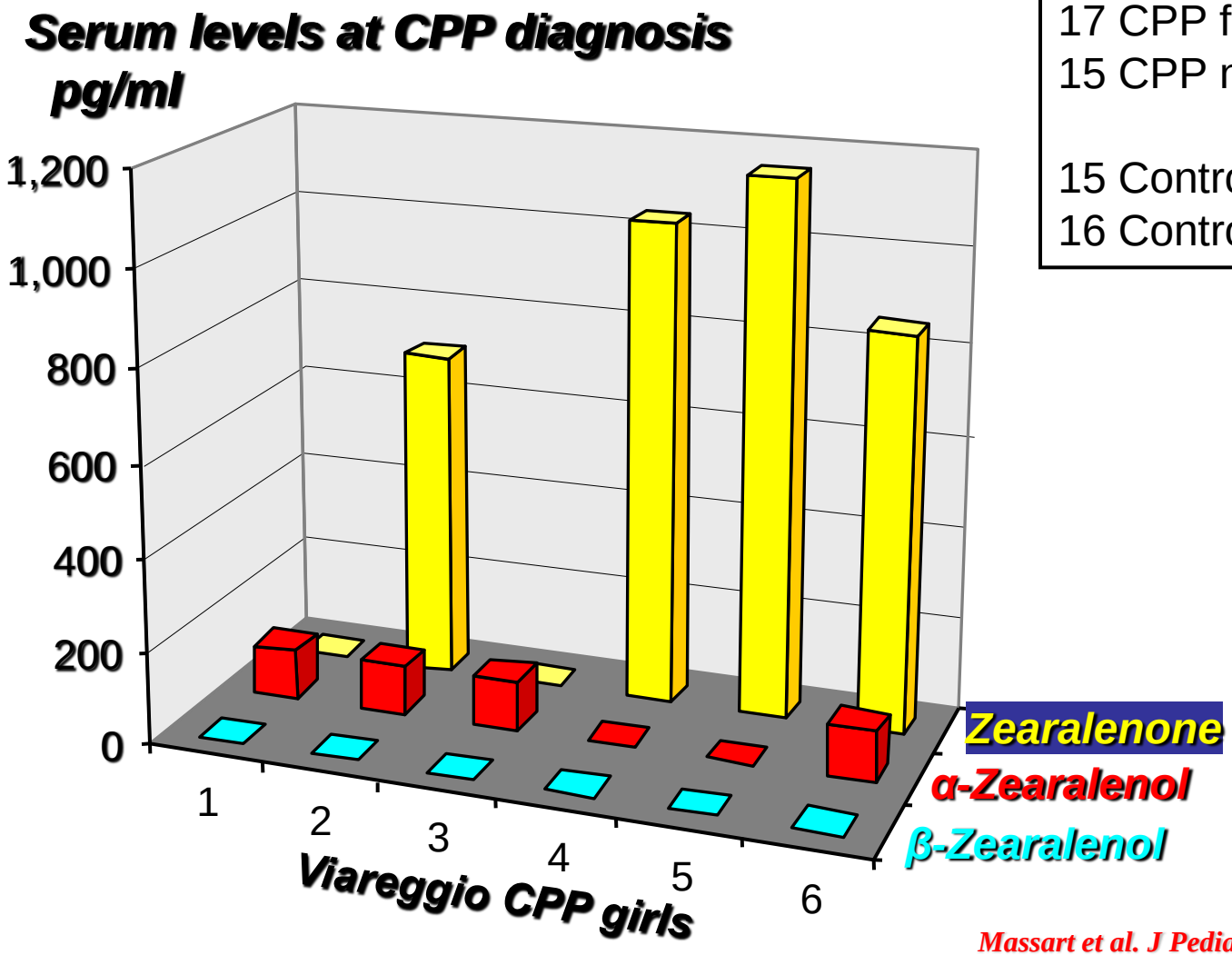


Figure 1. Twenty-three-month-old Puerto Rican girl with premature breast development (thelarche).

Phthalate esters were consistently detected at significant concentration levels (ranging from tens of parts per billion to units of parts per million) in 28 of 41 (68%) serum samples obtained from the thelarche patients.

TELARCA

Mycoestrogens are only HPLC-detected in 6 CPP girls from Viareggio area



17 CPP from Viareggio area
15 CPP not from Viareggio
vs.
15 Controls from Viareggio
16 Controls not from Viareggio

Massart et al. J Pediatr 2008; 152:690-5

TELARCA

1) Quando consideriamo precoce la comparsa di un telarca ?

2) Quali i motivi di anticipo del telarca?

3) Quale la diagnosi più frequente ?

TELARCA

TELARCA PREMATURO ISOLATO

TELARCA

1) Quando consideriamo precoce la comparsa di un telarca ?

2) Quali i motivi di anticipo del telarca?

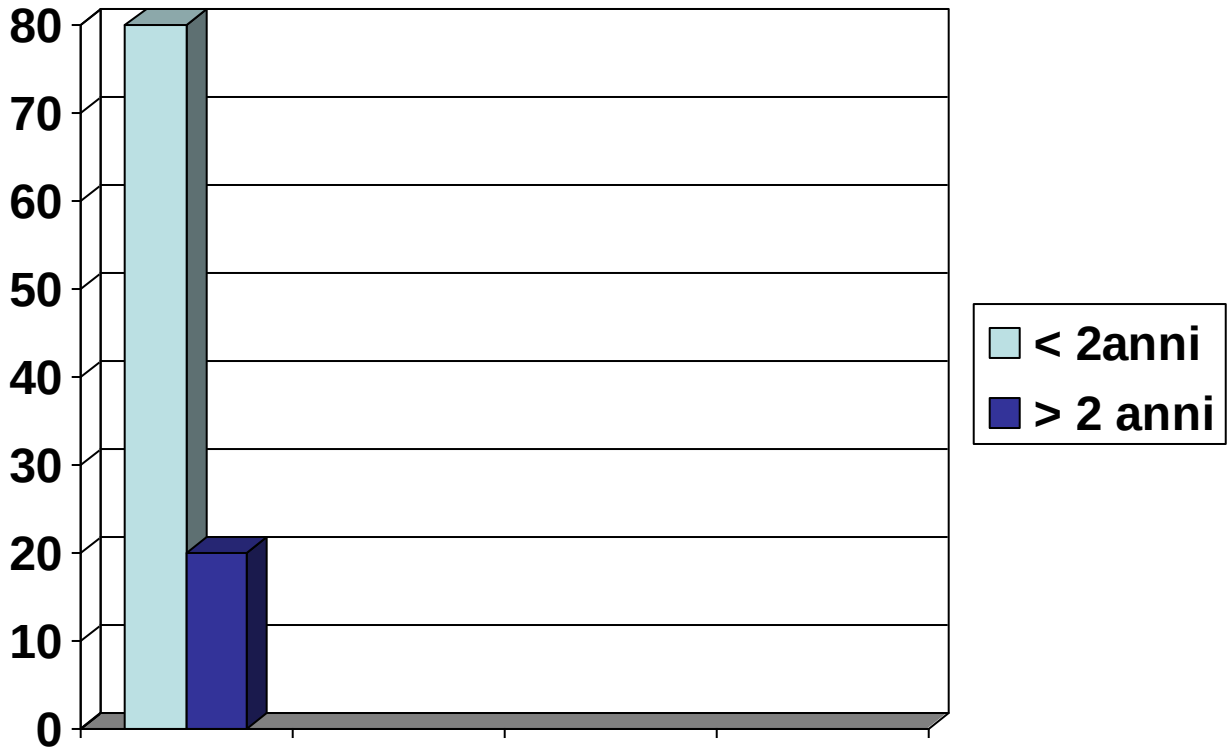
3) Quale la diagnosi più frequente ?

4) Quale prognosi ?

Isolated premature thelarche and thelarche variant: clinical and auxological follow-up of 119 girls.

Clinica Pediatrica Parma

J Endocrinol Invest 1998



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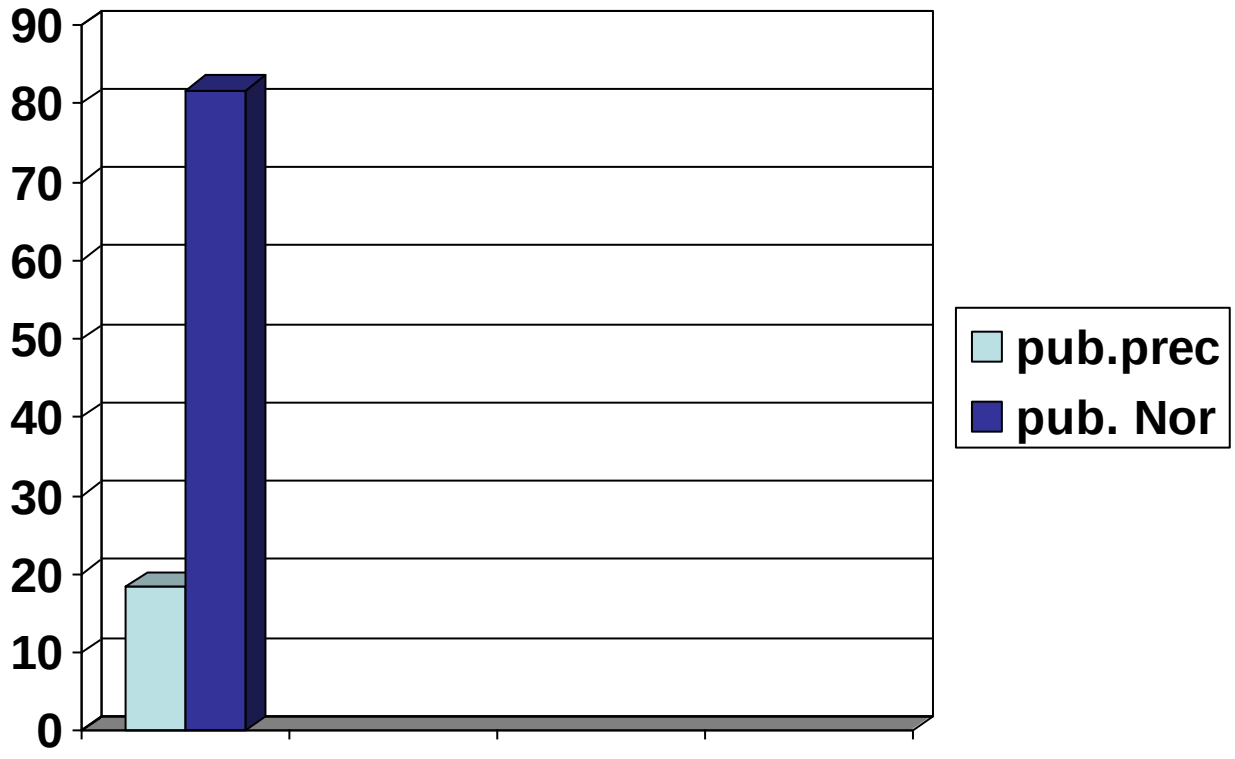
J Endocrinol Invest 1998



TELARCA

1) Quando consideriamo precoce la comparsa di un telarca ?

2) Quali i motivi di anticipo del telarca?

3) Quale la diagnosi più frequente ?

4) Quale prognosi ?

5) Quale diagnosi differenziale ?

TELARCA

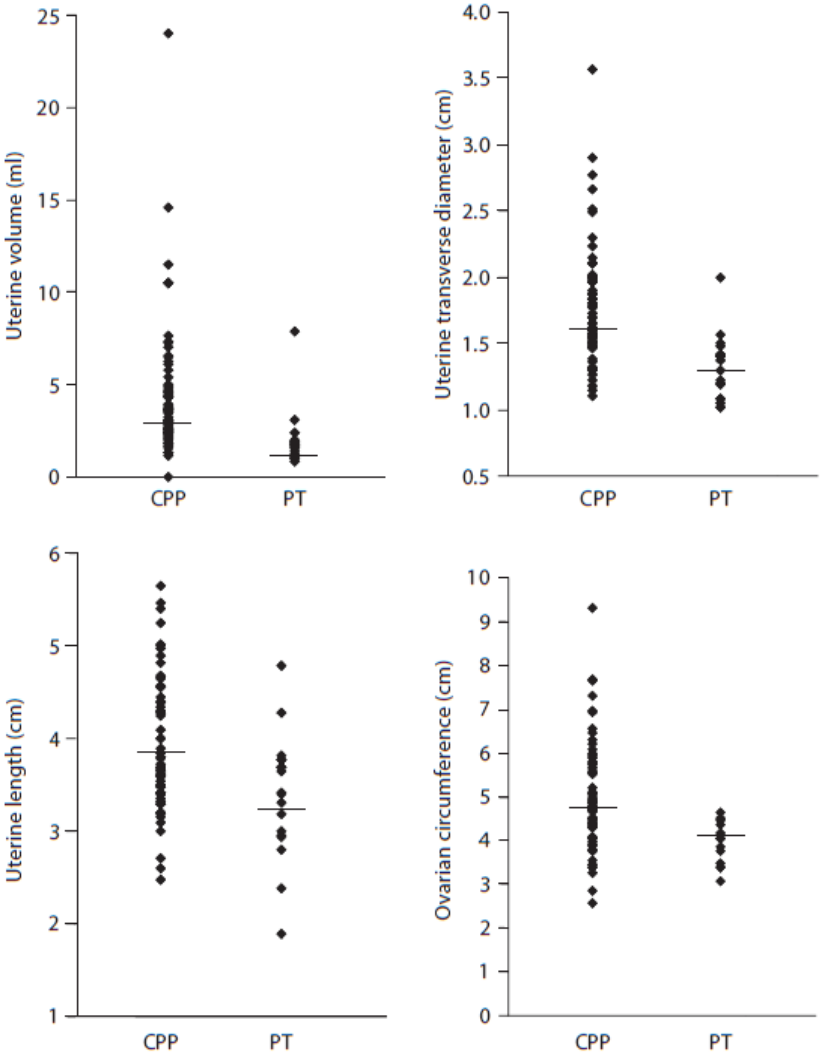
CASI CLINICI MAURO POCECCO

TELARCA

Role of Pelvic Ultrasound in Girls with Precocious Puberty

L. de Vries M. Phillip

Horm Res Paediatr 2011;75:148–152



TELARCA

Horm Res Paediatr 2011;75:148–152

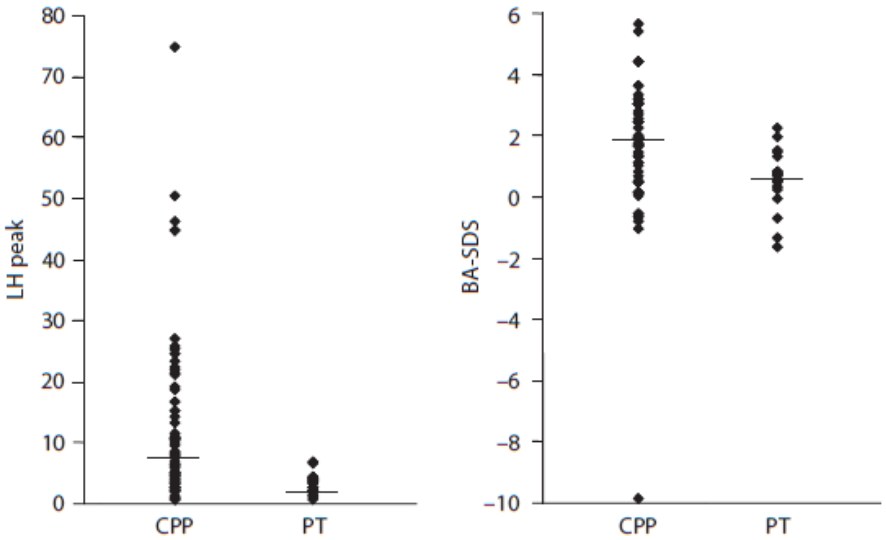
Role of Pelvic Ultrasound in Girls with Precocious Puberty

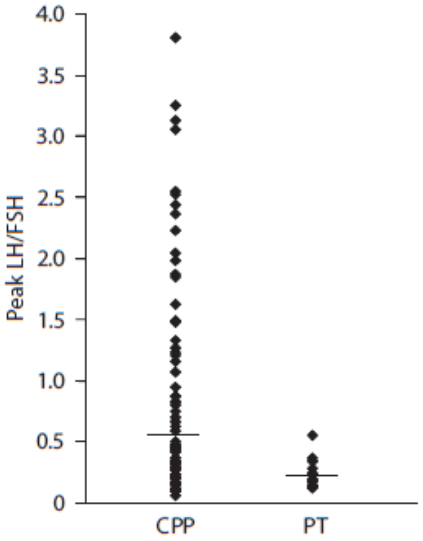
L. de Vries M. Phillip

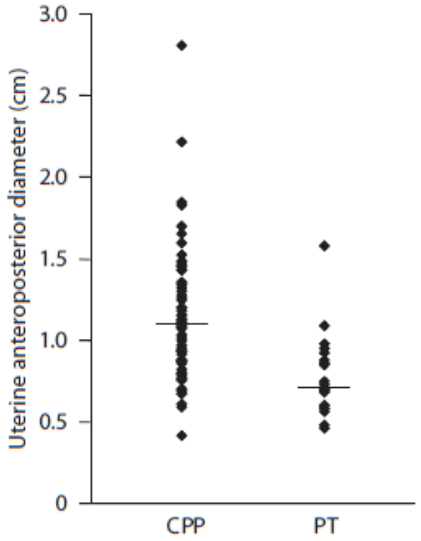
Pelvic ultrasound alone is not always sufficiently reliable to differentiate one type of sexual precocity from another. However, the parameters measured by pelvic ultrasound may improve the diagnostic accuracy of GnRH-dependent PP and help clinicians to determine which girls need treatment. In contrast to other clinical parameters applied in the diagnosis of pubertal precocities, one ultrasound scan provides a combination of several objective parameters.

The presence of midline endometrial echo, a uterine length greater than 4 cm, a transverse diameter greater than 1.5 cm, or a uterine volume greater than 2.0 ml in a girl with premature breast development makes the diagnosis of precocious or early puberty very likely. Thus,

TELARCA







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