



PUBERTAL DEVELOPMENT ANTICIPATION



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Background:

Pubertal timing is influenced by a complex interaction among genetic, nutritional, environmental and socioeconomic factors. Over the past 30 years a trend in pubertal timing anticipation has been demonstrated. Environmental factors involved in this phenomenon are mainly represented by endocrine disruptors compounds (EDCs), such as pesticides, industrial compounds and persistent organic pollutants, estrogens and phytoestrogens.

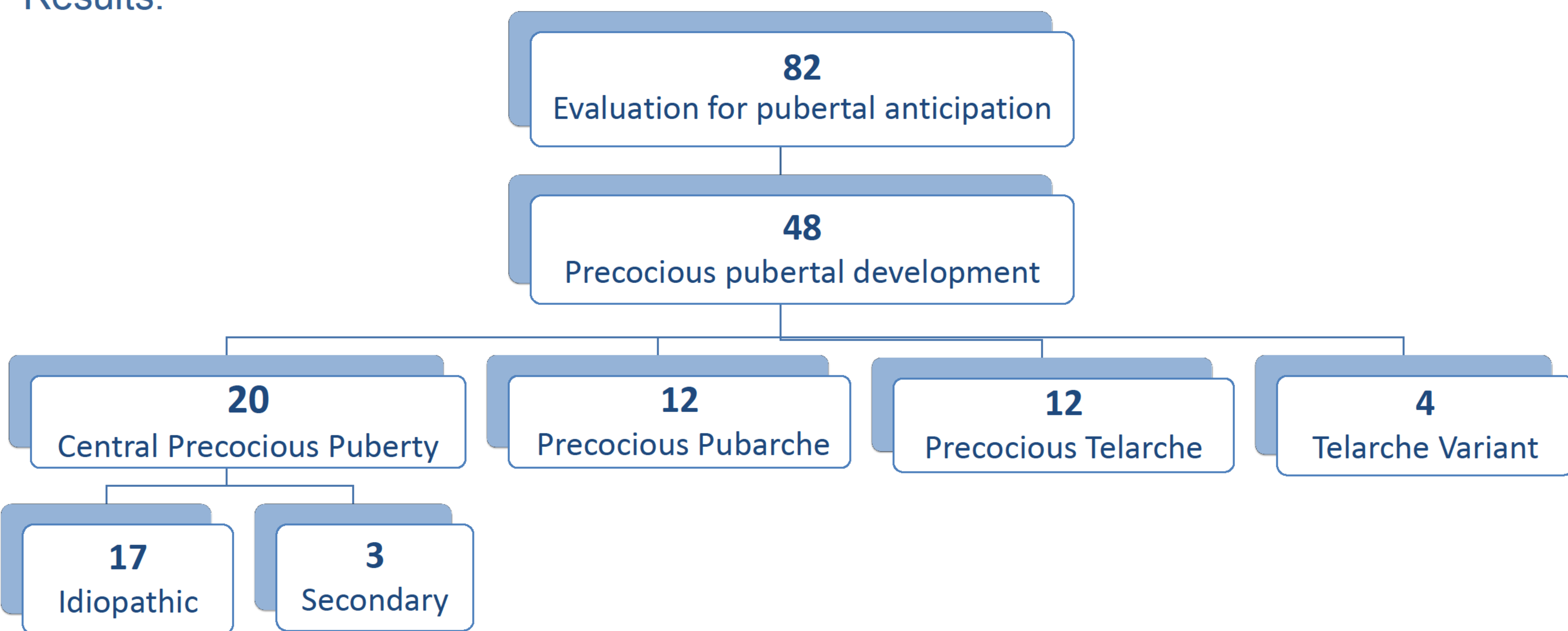
Objective and hypotheses:

We report our experience with patients referred to our Unit for evaluation of pubertal development anticipation.

Methods:

Over the last 4 years 82 patients, 76 females and 6 males, aged between 4.5 and 11.0 years were referred to our pediatric endocrinology department for pubertal development evaluation. Work-up included auxological evaluation, measurement of FSH, LH, prolactin, testosterone, estradiol, FT4, TSH, beta-HCG, alpha-fetoprotein in addition to bone age and pelvic ultrasound in females. MRI of the hypothalamic-pituitary region to rule out organic causes of precocious pubertal development and GnRH stimulation tests were performed in those patients who presented clinical and laboratory features consistent with precocious pubertal development.

Results:



Out of 82 patients, 48 (42 females and 6 males) were diagnosed with precocious pubertal development: 20 patients with central precocious puberty (3 secondary and 17 idiopathic), 12 with precocious pubarche, 12 with precocious thelarche, and 4 patients with thelarche variant. Patients (2 adopted males) with central precocious puberty received treatment with GnRH analogue. All patients on treatment showed slowing of both pubertal progression and bone maturation. No adverse events were observed.

Conclusions:

Our experience, even if carried out on a small number of patients, is in agreement with the growing evidence of pubertal maturation occurring at earlier ages. A key role is probably played by EDCs, more often widely used in everyday life. Many authors are suggesting to redefine the ages for early maturation, since the entire distribution of pubertal timing has shifted to a younger age.

