

AMH LEVEL OF INFANTS WITH PREMATURE THELARCHE AND POSSIBLE RELATIONSHIP BETWEEN AMH AND MINI-PUBERTY

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BACKGROUND

AMH levels of mini puberty are higher than prepubertal period. Since AMH inhibits both initial follicle recruitment and FSH-dependent follicle growth, the rising levels of AMH during mini-puberty may be an ovarian response to prevent FSH-induced follicle growth. In this study we investigated AMH levels in infants with premature thelarche who are presumed to have exaggerated/prolonged mini puberty due to inadequate/late suppression of pubertal activation.

METHOD

Fifty five female infants between 4 months and 3 years of age with premature thelarche and 49 healthy girls were enrolled in the study. Bone age, pelvic ultrasonography findings, LH, FSH, estradiol and AMH level of the patient group and serum AMH level of the control group were evaluated.

RESULTS

Serum AMH levels of premature thelarche (med:1.66 min-max:0.15-7.28 ng/ml) were significantly lower than the control group's (med:2.46 min-max:0.60-8.49 ng/ml)(p:0.015).

AMH and FSH were negatively correlated (r:-0.412 p:0.002) in infants with premature thelarche.

Table 1. The clinical and laboratory findings of the infant with premature thelarche and control group

	Infants with premature thelarche (n:55)				Control group (n:49)				p
	median	sd	min	max	median	sd	min	max	
CA (year)	1.50	0.65	0.4	3	1.70	0.85	0.4	3	0.577
Height (cm)	82.1	8.0	63	104.2	83.4	9.9	61	100	0.860
Height SDS	0.16	1.04	-2.30	2.40	-0.35	0.92	-2.06	1.75	0.008
Weight (kg)	11.1	2.6	6.6	18.8	10.4	3.1	5.7	23.5	0.344
Relative weight (%)	101.5	10.8	78	125	99	12.3	80	138	0.303
AMH ng/ml (pmol/L)	1.66 (11.85)	1.54 (11.00)	0.15 (1.07)	7.28 (52.0)	2.46 (17.57)	1.6 (11.42)	0.60 (4,28)	8.49 (64.64)	p:0.015

Figure 1: Box-plot graphic of Premature thelarche and control groups' AMH levels

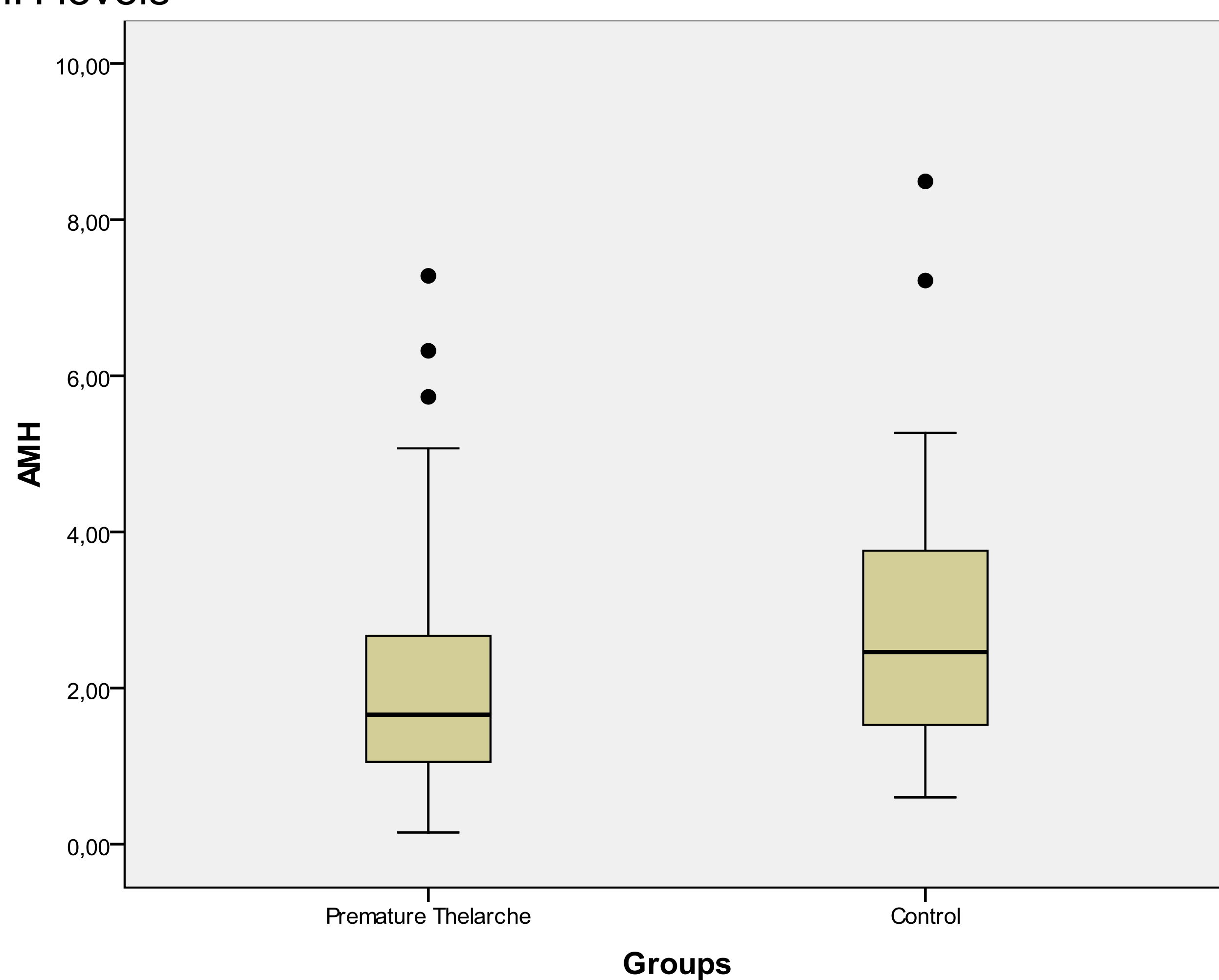
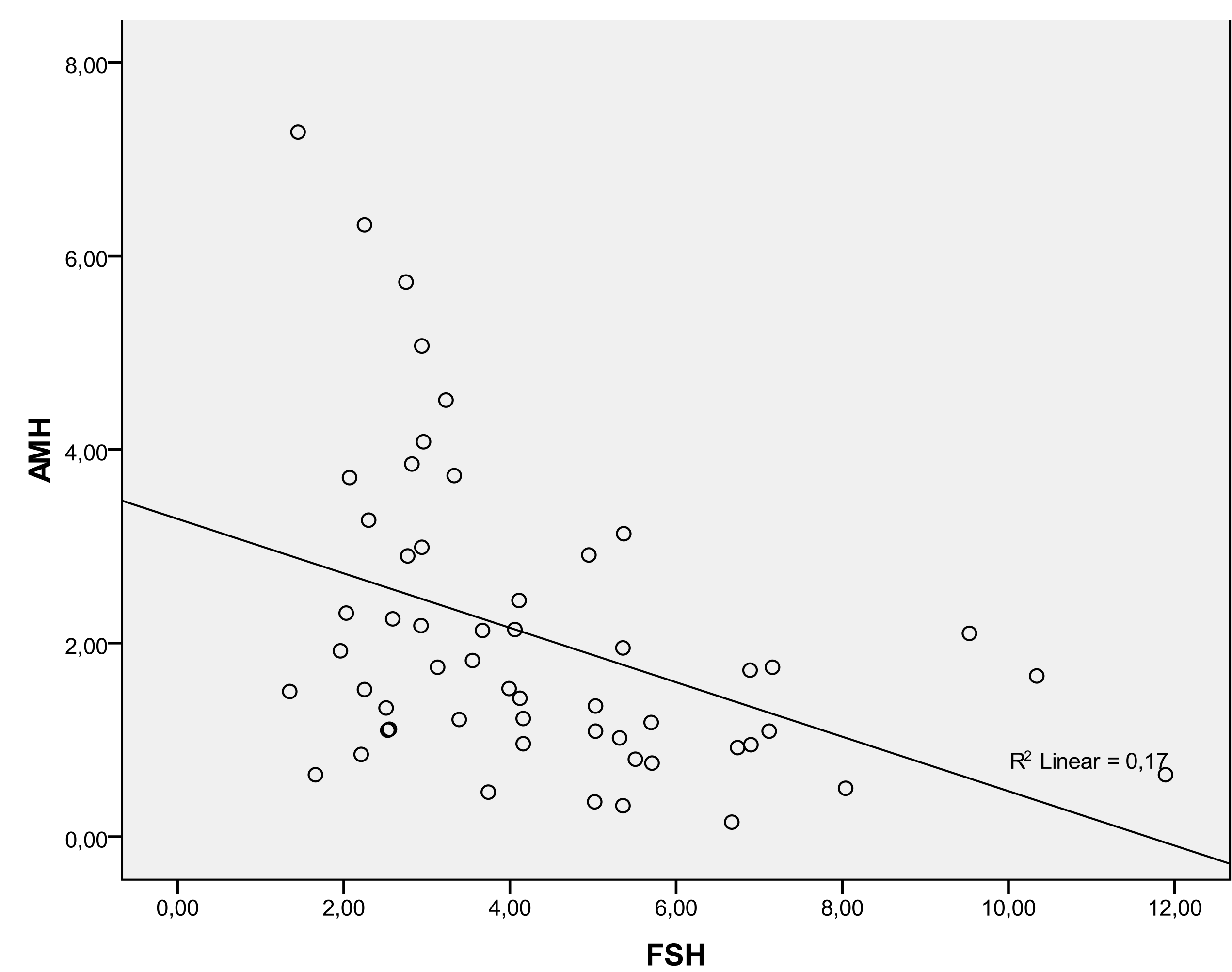


Figure 2: The correlation figure of AMH and FSH



CONCLUSION

This is the first study to investigate AMH levels in infants with premature thelarche. It was concluded that AMH may play a role of suppressing pubertal findings during the mini-puberty period and decreased of AMH may cause premature thelarche in infants as a result of exaggerated/prolonged mini-puberty because of detection of AMH levels in infants with premature thelarche less than healthy controls and a negative correlation between AMH and FSH.

