

# Association of Genetic Polymorphisms around the LIN28B Gene and Idiopathic Central Precocious Puberty Risks among Chinese Girls

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## INTRODUCTION

Genome-wide association studies have identified rs314276, rs314263, rs7759938 and rs314280 in or near the LIN28B gene as associated with age at menarche. To date, the effect of polymorphisms in this gene on idiopathic central precocious puberty (ICPP) in Chinese girls have not been reported. The aim of this study was to evaluate the association of the four loci with ICPP in Chinese girls.

## OBJECTIVES

In this study, we conducted a case-control study including 502 girls with ICPP and 489 controls. Four single-nucleotide polymorphisms (SNPs) were genotyped in both groups using an improved multiplex ligation detection reaction (iMLDR) technique.

## RESULTS

Of the 4 SNPs of the LIN28B analyzed, 3 SNPs, rs314276, rs7759938 and rs314280, were associated with ICPP risk at  $P < 0.05$ . The association of rs314276, however, was no longer significant after adjustment for multiple testing. Compared with rs7759938 TT or TC genotype, decreased ICPP risk was associated with CC (OR=0.527, 95% CI: 0.329-0.843) genotype ( $P = 0.008$ ). Compared with rs314280 GG or GA genotype, decreased ICPP risk was associated with minor allele carrier (AA) genotype (OR=0.538, 95% CI: 0.337-0.858,  $P = 0.009$ ). The two identified variants showed the same association signals for ICPP.

SNP	ICCP risk, Additive models				Dominant models			Recessive models		
	AB OR(95% CI)	BB OR(95% CI)	<i>P</i>	Adj- <i>p</i>	AB/BB OR(95% CI)	<i>P</i>	Adj- <i>p</i>	BB OR(95% CI)	<i>P</i>	Adj- <i>p</i>
rs314276	0.892(0.669-1.189)	0.584(0.360-0.946)	0.048	0.178	0.825(0.628-1.084)	0.167	0.519	0.616(0.387-0.979)	0.041	0.154
rs7759938	0.973(0.730-1.297)	0.520(0.319-0.848)	0.048	0.178	0.869(0.662-1.141)	0.312	0.776	0.527(0.329-0.843)	0.008	0.029
rs314280	0.934(0.701-1.245)	0.521(0.320-0.847)	0.033	0.126	0.840(0.640-1.104)	0.211	0.612	0.538(0.337-0.858)	0.009	0.036

## CONCLUSIONS

In conclusion, common genetic variations (rs7759938 and rs314280) of LIN28B may contribute to ICPP susceptibility in Chinese girls.

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## DISCLOSURE

The authors have no financial relationships relevant to this article to disclose.