# Assessment of the stretched penile length in Sri Lankan newborns

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Session Name: Fetal, neonatal endocrinology and metabolism (to include hypoglycemia) 3

Poster Number: P2-P204

Factor	Correlation Coefficient (Pearson)	Significance (p value)
Birth weight	0.062	0.233
Length	0.134	0.010
OFC	0.055	0.290
Gestational age	0.069*	0.187

\*Spearman's correlation coefficient

Comparison of the SPL with anthropometric data and gestational age

## Introduction

Evaluation of the external genitalia is important in the routine neonatal examination, since abnormalities of the genitalia give clues to underlying endocrine disorders or structural malformations.

# **Objective**

The objectives of the study were to document the SPL of healthy term neonates born following an uncomplicated delivery at a tertiary care hospital in Sri Lanka, and to establish the normative data for the SPL for Sri Lankan neonates.

# Method

This was a cross sectional observational study, carried out at post natal wards of the Castle Street Hospital for Women, Sri Lanka. The study was done on 369 stable newborns delivered at the gestational age of 37 to 42 weeks.

A complete neonatal examination was performed by the principal investigator and the measurements of the weight, length, head circumference and stretched penile length were obtained. Mean penile length and statistically significant difference of penile length (SD) values were calculated. The correlation of mean penile length, period of gestation, birth weight and length were analyzed.

# **Results and Conclusion**

The SPL positively correlated with the length of the baby. There is no statistically significant correlation of birth weight, head circumference and gestational age with the SPL. The mean SPL for term Sri Lankan newborns was 3.03cm  $\pm 0.37$ cm and the 2SD value was 2.29cm.

Since the -2SD of SPL was 2.29cm, measurements less than this should be considered as micropenis.

Key words: stretched penile length (SPL), Neonates, Sri Lankan newborns

# References

- 1. Boas M, Boisen KA, Virtanen HE, Kaleva M, Suomi AM, Schmidt IM, Damgaard IN, Kai CM, Chellakooty M, Skakkebaek NE, Toppari J, Main KM. Postnatal penile length and growth rate correlate to serum testosterone levels: a longitudinal study of 1962 normal boys. Eur J Endocrinol 2006; 154:125-129
- 2. Kutlu AO. Normative Data for Penile Length in Turkish Newborns. J Clin Res Ped Endo. 2010; 2(3):107-110. DOI: 10.4274/jcrpe.v2i3.107
- 3. HatipogluN, Kurtoglu S. Micropenis: Etiology, Diagnosis and Treatment Approaches. J Clin Res Pediatr Endocrinol. 2013; 5(4): 217–223. DOI: 10.4274/Jcrpe.1135
- 4. Westwood M. Principles of Hormone Action. In: Brook CGD, Clayton PE, Brown RS. Brook's Clinical Pediatric Endocrinology. 6th ed, Wiley Blackwell 2009.
- 5. Lian WB, Lee WB, Ho LY. Penile length of newborns in Singapore. J Pediatr Endocrinol Metab. 2000; 13: 55 –62.
- 6. Prabhu SR, Mahadevan S, Bharath R, Jagadeesh S, KumuthaJ, Suresh S. Normative data for stretched penile length in term neonates born in Tamil Nadu. *Indian J Endocrinol Metab* 2014; **18**: 585–86.
- 7. Bhakhri BK, Meena SS, Rawat M, Datta V, Neonatal stretched penile length: relationship with gestational maturity and anthropometric parameters at birth. *PaediatrInt Child Health*. 2015; **35**:53-5.
- 8. MohamedMH, Abdou R, Hamza MT, Hussein MMS. Penile length and cord total and free testosterone in full term male Egyptian neonates. *Egyptian Pediatric Association Gazette*. 2015: **63**: 58–62.
- 9. Feldman KW, Smith DW. Fetal phallic growth and penile standards for newborn male infants. J Pediatri. 1975; 86:395-8.
- 10.Flatau E, Josefsberg Z, Reisner SH, Bialik O, Iaron Z. Penile size in the newborn infant. *J Pediatr.* 1975; **87**:663-4.
- 11.Lemeshow, S., Hosmer, D. W., Klar, J., &Lwanga, S. K. (1990). Adequacy of Sample Size in Health Studies, 1–239.
- 12.Bin-Abbas B, Conte FA, Grumbach MM. Congenital hypogonadotropic hypogonadism and micropenis: effect of testosterone treatment on adult penile size why sex reversal is not indicated. *J Pediatr*. 1999;**134**(5):579-83.
- 13. Vasudevan G, Manivarmane B, Bhat BV, Bhatia BD, Kumar S. Genital standards for south Indian male newborns. *Indian J Pediat*. 1995;62:593-596
- 14.Bin-Abbas B, Conte FA, Grumbach MM. Congenital hypogonadotropic hypogonadism and micropenis: effect of testosterone treatment on adult penile size why sex reversal is not indicated. *J Pediatr*. 1999;**134**(5):579-83.
- 15. Vasudevan G, Manivarmane B, Bhat BV, Bhatia BD, Kumar S. Genital standards for south Indian male newborns. *Indian J Pediat*. 1995;62:593-596.
- 16.Kulkarni ML, Rajendran NK. Normal values for penile standards in new born. *Indian Paediatrics*. 1991; 28
- 17. Cheng PS, Chanoine JP. Should the definition of micropenis vary according to ethnicity? *Horm Res.* 2001;55: 278-88
- 18. Ting TH, Wu LL. Penile length of term newborn infants in multiracial Malaysia. Singapore Med J. 2009; 50:818
- 19.Lemeshow A, Hosmer S, Klar DW, Lwanga J, Kaggawa S. Adequacy of Sample Size in Studies. World Health Organization, 1990; 1–239.







