

Relationship Between Prepuce Epstein Pearls with Gestational Age, Birth Weight and Birth Order

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Prepuce epstein pearls (PEP) in newborn are a cause of parental anxiety. The site of pearls sometimes evoke panic reaction among elders in the family. It is not infrequent for them to rush to doctors, who, due to lack of knowledge indulge in unnecessary puncturing, squeezing and scrapping. Paucity of published literature on this condition prompted us to undertake the present study.

Material and Methods

This prospective study was carried in Mahila Chikitsalya and State Zenana Hospital attached to S.M.S. Medical College, Jaipur, between October 1992 to March 1993. Live born male babies delivered during this period were examined for the presence of epstein pearls on the prepuce. Prepuce epstein pearl was cleaned with cotton swab to remove any smegma, which might mimic epstein pearl. Then its shape, position

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and time of disappearance was recorded. Birth weight and birth order was recorded, and gestational age was calculated by last day of menstrual period or by Dubowitz method(1).

Results

Of the 1750 male newborns studied, 32 showed epstein pearls on prepuce giving an incidence of 18.2/1000. None of them had gestational age less than 37 weeks (*Table I*). No correlation could be established between birth weight (*Table I*) and birth order (*Table II*) and occurrence of PEP. Seventeen (53.1%) of cases had PEP at 6 O'clock position, followed by 8 O'clock position in 8 (25%) and 2 O'clock in 5 (15.6%) (*Table III*).

Only 27 cases out of 32 could be followed up for disappearance of PEP. It disappeared within 96 hours in 20 of 27 cases. Of the remaining 7 it disappeared in 5 within 7 days (*Table IV*). In 2 cases it persisted beyond 7 days were sent to pediatric surgeon to be "shelled out."

Discussion

The prepuce epstein pearl (PEP) was an infrequent finding. Its incidence in this study was 18.2/1000 live born male babies which is high in comparison to another Indian study(2), which reported its incidence as 7.3/1000 but lower than that reported by Lawrence(3) and Milner *et al.*(4). It was seen only in term and post-term babies. Epstein pearls are superficial epidermal inclusion cysts that contain laminated keratinized material(5) and epithelial cells(6). These superficial skin developmental variation probably occur with increasing maturity of the fetus; which could explain lack of this phenomenon in the preterms.

Birth weight and birth order did not

TABLE I—Relationship of Prepuccial Epstein Pearls with Gestational Age and Birth Weight

Gestational age (weeks)	Birth weight	No. of newborns	No. of cases with pearls
Preterm (<37)	SFD	85	0
	AFD	246	0
	LFD	Nil	0
Term (37-41)	SFD	296	7 (2.3)
	AFD	978	21 (2.1)
	LFD	44	1 (2.3)
Post term (\geq 42)	SFD	28	1 (3.6)
	AFD	61	2 (3.2)
	LFD	12	Nil
Total		1750	32

GA = Gestational age, SFD = Small for date, AFD = Appropriate for age, LFD = Large for date.

Figure in parentheses indicate percentages.

TABLE II—Relationship of PEP with Birth Order

Birth order	No. of newborns	No. of cases with PEP
1	222	4
2	321	6
3	357	7
4	317	6
5	300	6
6	233	3
Total	1750	32

The relationship was not statistically significant.

TABLE III—Position of Epstein Pearls on Prepuce

Position	No. of cases
2 O'clock	5
4 O'clock	1
6 O'clock	17
8 O'clock	7
10 O'clock	Nil
12 O'clock	Nil
Dorsal raphe	2
Total	32

affect the occurrence of this condition. This is in contrast to the earlier Indian study which reported that PEP was not found in first born babies and terms and were less

frequent in LBW babies. The condition occurred most frequently on the tip of the fore-skin at 6 O'clock position, which is in conformity with other studies. This benign

TABLE IV—Time of Disappearance of PEP

Time of disappearance	No. of cases
Within 24 h	2
Within 48 h	7
Within 72 h	6
Within 96 h	5
4 to 7 days	5
7+ days	2
Total	27

condition disappeared usually within 4 days and almost always within 7 days.

REFERENCES

- Dubowitz LMS, Dubowitz V, Goldberg GC. Clinical assessment of gestational age in the newborn infant. *J Pediatr* 1970, 77: 1-10.
- Faridi MMA, Adhami S. Prepuccial Epstein Pearls. *Indian J Pediatr* 1989, 56: 653-655.
- Lawrence RA. Physical examination. *In: Assessment of newborn—A Guide for the Practitioner*, 1st edn. Eds Ziai M, Clarke TA, Meritt TA. Boston, Little Brown and Company, 1984, pp 91-95.
- Milner RDG, Herber SM. A Colour Atlas of the Newborn. London, Wolfe Medical Publication Ltd, 1984, Fig 209, p 81.
- Esterly NB. Diseases of the skin. *In: Nelson Textbook of Pediatrics*. 14th edn. Eds Behrman RE, Kliegman RM, Nelson WE, Vaughan III VC. Philadelphia, WB Saunders Co, 1992, p 1626.
- Behrman RE, Kliegman RM, Nelson WE, Vaughan VC. Physical examination of the newborn infant. *In: Nelson's Textbook of Pediatrics*, 14th edn. Eds Behrman RE, Kliegman RM, Nelson WE, Vaughan III VC. Philadelphia, WB Saunders Co, 1992, p.424.