

Eruption of Permanent Teeth Among The Gallong of Arunachal Pradesh

D.K. Limbu

Department of Anthropology, North-Eastern Hill University, Shilling 793 014, Meghalaya, India

KEY WORDS Dentition. Tribe. Eruption. Himalaya.

ABSTRACT In the present study, an attempt has been made to describe the eruption of permanent teeth in the Gallong children of Arunachal Pradesh, India. A total of 690 children of both sexes were orally examined. Median age at eruption for each tooth is calculated, using Profit transformation of Fisher and Yates (1957). It is found that all permanent teeth erupt between the median age of 6.7 and 11.90 years in girls and 6.35 and 12.67 years in boys. When compared with boys, girls show earlier eruption of all maxillary and mandibular teeth in both sides of the jaws. The entire permanent dentition shows that the first mandibular molar, followed by the first maxillary molar, erupt at the earliest for both sexes.

INTRODUCTION

Data on emergence of teeth eruption are very limited in tribal population of India in general and or North-East India in particular (Singh, 1980; Jaswal, 1983; Gaur and Singh, 1994). Therefore, the objective of the present study is to report the age and sequence of tooth eruption among the Gallong, one of the major sub-tribes of Adi in Arunachal Pradesh. We shall present our findings according to side, jaw and sex.

MATERIAL AND METHODS

The present study was based on a cross-sectional sample of 690 school children aged between 5.5 and 13.5 years in the West Siang district of Arunachal Pradesh. Information regarding eruption of permanent teeth was obtained by orally examining these children who were apparently healthy. The date of birth was collected from school registers and those individuals, whose exact age was not available, were excluded from the present

sample. Dental status of each subject was examined with the help of dental probe, spatula and dental mirror in sufficient day light. If any part of the crown had pierced the gum to become visible, the tooth was considered emerged. Some missing permanent teeth were counted as erupted when the subject could recall their emergence and/or extraction.

To compute the median age of eruption, profit transformation method was used, following Fisher and Yates (1957). The calculation for the right and left sides of the maxilla and mandible was done separately.

RESULTS AND DISCUSSION

Table 1 gives the median age (\pm S.E.) of teeth eruption in the Gallong boys and girls according to side and jaw. It is found that in boys all left and right mandibular teeth, except the first premolar, erupt earlier than their maxillary counterparts. In the case of girls, barring first and second premolars, all other teeth appear earlier in both the quadrants of mandible, when compared with those of the maxilla. With respect to sex dimorphism, it is found that girls show earlier eruption of all maxillary and mandibular teeth in both sides of the jaw. A similar median age of eruption between boys and girls is, however, observed in the case of lateral mandibular incisor. Therefore, the two sides are pooled together for further calculation of median age as presented in table 2. In short, their permanent dentition shows that the first mandibular molar, followed by the first maxillary molar, erupt at the earliest for both sexes. It is also found that the median ages for girls are lower

Table 1 : Median age \pm S.E. of tooth eruption in Gallong

Particular	Sex	I1	I2	C0	P1	P2	M1	M2
Left quadrant								
Maxillary	Boys	7.50 \pm 0.20	8.50 \pm 0.22	11.50 \pm 0.25	10.60 \pm 0.20	11.40 \pm 0.30	6.35 \pm 0.30	12.65 \pm 0.25
	Girls	7.10 \pm 0.27	8.40 \pm 0.22	10.60 \pm 0.30	9.75 \pm 0.32	10.85 \pm 0.32	6.30 \pm 0.20	11.90 \pm 0.25
Mandibular	Boys	6.60 \pm 0.17	7.65 \pm 0.17	9.90 \pm 0.22	10.75 \pm 0.20	11.35 \pm 0.20	6.25 \pm 0.22	11.95 \pm 0.12
	Girls	6.40 \pm 0.20	7.65 \pm 0.17	9.50 \pm 0.20	10.10 \pm 0.25	10.90 \pm 0.35	6.05 \pm 0.15	11.40 \pm 0.35
Right quadrant								
Maxillary	Boys	7.60 \pm 0.30	8.55 \pm 0.22	11.40 \pm 0.40	10.50 \pm 0.20	11.45 \pm 0.22	6.70 \pm 0.50	12.70 \pm 0.20
	Girls	7.30 \pm 0.20	8.35 \pm 0.22	10.80 \pm 0.40	9.80 \pm 0.55	10.70 \pm 0.30	6.40 \pm 0.20	11.90 \pm 0.22
Mandibular	Boys	6.50 \pm 0.20	7.55 \pm 0.20	9.85 \pm 0.40	10.75 \pm 0.20	11.30 \pm 0.10	6.45 \pm 0.30	12.00 \pm 0.25
	Girls	6.40 \pm 0.20	7.25 \pm 0.22	9.40 \pm 0.20	10.00 \pm 0.30	10.80 \pm 0.35	6.10 \pm 0.15	11.30 \pm 0.40

Table 1 : Median age \pm S.E. of tooth eruption in Gallong (Left and right quadrants combined)

Particular	Sex	I1	I2	C0	P1	P2	M1	M2
Left quadrant								
Maxillary	Boys	7.55 \pm 0.25	8.52 \pm 0.22	11.45 \pm 0.32	10.55 \pm 0.20	11.42 \pm 0.26	6.52 \pm 0.40	12.67 \pm 0.22
	Girls	7.20 \pm 0.23	8.37 \pm 0.22	10.70 \pm 0.35	9.77 \pm 0.43	10.77 \pm 0.31	6.35 \pm 0.20	11.90 \pm 0.23
Right quadrant								
Mandibular	Boys	6.55 \pm 0.18	7.60 \pm 0.18	9.87 \pm 0.31	10.75 \pm 0.20	11.32 \pm 0.15	6.35 \pm 0.20	11.97 \pm 0.18
	Girls	6.40 \pm 0.20	7.45 \pm 0.19	9.45 \pm 0.20	10.05 \pm 0.27	10.85 \pm 0.35	6.07 \pm 0.15	11.35 \pm 0.37

than those observed for boys. All permanent teeth (less third molars) erupt between the median age of 6.07 and 11.90 years in girls and 6.35 and 12.67 years in boys.

The sequence of eruption of permanent teeth in the Gallong children is as follows :

Maxilla

Boys : $M^1 > I^1 > I^2 > P^1 > P^2 > C^0 > M^2$

Girls : $M^1 > I^1 > I^2 > P^1 > P^2 > C^0 > M^2$

Mandible

Boys : $M_1 > I_1 > I_2 > C_0 > P_1 > P_2 > M_2$

Girls : $M_1 > I_1 > I_2 > C_0 > P_1 > P_2 > M_2$

Both boys and girls show similar sequence of eruption in the mandible. But with regard to maxilla, the second premolar appears earlier than the canine in the case of boys, and the situation is reversed in the case of girls. On

the other hand, canines emerge prior to first premolar in the mandible of both boys and girls, though the pattern is just opposite in the case of maxilla.

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