

ANNOTATIONS

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Prenatal Rotational Field Involving Deciduous Lateral Incisors

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In an earlier radiographic study of dental development in the third-trimester fetus, considerable variability was observed in the degree of rotation of the deciduous lateral incisors (VAN DER LINDEN, MACNAMARA and BURDI, *J Dent Res* 51: 71, 1972). Accordingly, we became interested in the extent of lateral-incisor rotation in still younger specimens, the age at onset of lateral-incisor rotation, and the degree of correspondence between the jaws. Our subject material consisted of 18 anatomically normal human specimens, in the 16- to 26-week-old age range; the specimens were carefully positioned during histologic sectioning to provide serial 15-micrometer (μm) frontal sections with minimal skewing (Illustration).

As given in the table, 64 of the 72 deciduous lateral incisors were rotated (89%) and only eight of these incisors (11%) failed to show axial rotation. Analyzing the upper and lower jaws separately, 31 of 36 lateral incisors were rotated in 18 maxillas (86%) and 33 of 36 mandibular lateral incisors were also rotated (92%). Axial rotation of deciduous incisors was therefore the rule in both jaws as early as reliable judgments could be made.

In the maxilla, lateral incisors tended to be rotated in the lateral or mesiolabial direction in 24 of 36 incisors, or 61%. Similarly, in the mandible, the majority of lateral incisors were rotated in the lateral (mesiolabial) direction, that is, 78%. Chi-square tests showed no difference between the jaws in the prevalence of lateral (mesiolabial) rotation, medial (mesiolingual) rotation, and in the proportion of unrotated incisors. The majority of fetuses showed mesiolabial rotation in both jaws.

The data indicate that the majority of the deciduous lateral incisors develop in a rotated position during the second and third trimesters and most of them rotated in the lateral or mesiolabial direction. Clearly, there is the effect of a rotational field affecting both jaws

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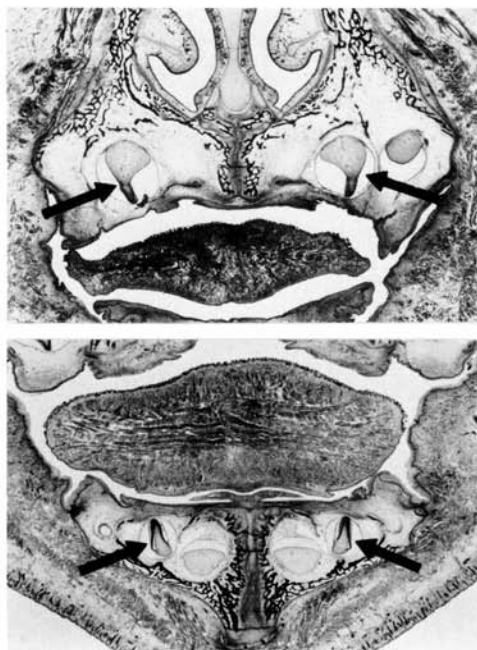
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TABLE
AXIAL ROTATION OF DECIDUOUS LATERAL INCISORS
IN THE 16- TO 26-WEEK-OLD FETUS

Jaw	Mesiolingual Rotation		No Rotation		Mesiolabial Rotation	
	N*	%	N*	%	N*	%
Maxilla	7	19	5	14	24	67
Mandible	5	14	3	8	28	78

* Number of teeth.

simultaneously. Furthermore, there must be subsequent rotation operating in the reverse direction at some point between the third trimester and the time of clinical emergence.



Frontal sections showing lateral or mesiolabial axial rotation of all four deciduous lateral incisors (indicated by arrows) typical of 16- to 26-week-old human fetus.