Cleft lip and palate with or without secondary palate involvement: the role of retronasal triangle view and maxillary gap at 11-14 weeks

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Objective
To evaluate the presence of a “maxillary gap” and/or an abnormal retronasal triangle view in the first trimester fetuses with cleft lip and palate (CLP) or with cleft palate only (CP).

Methods
The retronasal triangle view and the mid sagittal view of the fetal face at 11-13 weeks were retrospectively examined in 18 fetuses later diagnosed with CLP, 1 with CP only and 38 normal controls to assess if an abnormal retronasal triangle view and/or a “maxillary gap” were present. Cases with isolated cleft lip were not included in the study. The outcome was confirmed after birth or, in cases of termination of pregnancy, at postmortem examination. The interobserver variability was also investigated.

Results
The study population included 11 bilateral, 4 unilateral, 3 median CLP and 1CP. A maxillary gap was detected in 13(68%) cases and an abnormal retronasal angle in 16 (84%). A maxillary gap was visualized in about 80% of the cases with secondary palate involvement (13) or bilateral cleft of only the upper alveolar ridge with protrusion of the anterior portion of the maxilla (2). In the case of CP a maxilla gap was present while retronasal triangle appeared normal. In controls, maxillary gap or abnormal retronasal angle was present in 8% and 2. 5% respectively. The interobserver variability was not significant for both signs. Sixteen (84%) cases were associated with other fetal abnormalities, including aneuploidies.

Conclusion
Retronasal triangle view was more sensitive for all palate clefts comparing to maxillary gap; the latter, however, showed an additional diagnostic ability when secondary palate was involved. Both approaches in combination could be helpful in detecting facial clefts at 11-14 weeks of gestation.