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Cytogenetic Studies on Cleft Lip and/or Cleft Palate in Kuwait

Amani M. AI-Adsani,[1] Mokhtar M. EI-Zawahri,[1] Suzanne A. AI-Bustan[1], Rameshwar L. Bang[2].
[1]Biologocal Sciences
[2]Surgury Departments, Kuwait University.

Our objective was to carry out a screening of chromosomes in 56 patients with cleft lip with or without cleft palate (GL:tCP) or cleft palate only (CPO) in order to evaluate the role of chromosome abnormalities in the etiology of the disease in Kuwait. The study was performed on 56 patients of CL:tCP or GPO (14 CL, 15 CPO, 27 CL+CP). Gbanding, C-banding and NOR-banding techniques were used for the chromosomal analysis and automated karyotype system was used for karyotyping. Two cases with major chromosome abnormality could be detected. The first case was a five-year-old male with nonsyndromic GL whose karyotypic analysis revealed 47,XYY. The second case was a nineyear-old female with syndromic bilateral GP whose karyotypic analysis revealed 47,XX,+22del.q 13(qter). The finding of 47,XYY associated with clefting is very rare and this is an additional case. In the second case with partial trisomy 22, it may be concluded that clefting is caused by the 3 copies of gene(s) located on 22q11 position. Chromosome analysis may have implication in the genetic counseling in "at risk" families where cytogenetic and molecular cytogenetic analysis could be considered.
Key words: cleft lip, cleft palate, chromosomes, cytogenetics, karyotype, Kuwait.