The present study of orofacial clefts, concretely unilateral cleft lip and palate (UCLP), is based on the cephalometrics analysis of lateral X-ray films of 23 ten-years-old females and 18 ten-years-old and fifteen-years-old males. This study is aimed at evaluation of sexual dimorphism in the human skeletal and soft tissue profile at the age of ten years approximately. The main aim is to describe development of skeletal and soft tissue profile during pubertal growth spurt in males after secondary bone grafting (SBG) and evaluate the effect of SBG by comparison with sample of patients with UCLP who did not undergo SBG. Lateral cephalometric radiographs were analyzed by using the classical morphometry and in the case of longitudinal study was used the finite element analysis (FESA) in addition. The results reveal that in girls, contrary to boys, more marked basic abnormalities of the cranium and soft tissue profile can be observed. The craniofacial development is satisfactory in patients with secondary bone grafting, there is a marked dentoalveolar proclination and contemporary proclination of upper and lower incisors. Because of marked increasing prominence of the nose, there is an increase of the global convexity of the profile, furthermore. The development of skeletal and soft tissue profile during pubertal growth spurt in males after SBG is much better than in patients without SBG, because of more marked facial convexity, nose prominence and better sagittal intermaxillary relations.