Synopsis of Original Research Paper

Analysis of the Dynamic Change of Smiling Face before and after Smile Training using Motion Capture System

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There is few people who can make a natural smile in front of company or a camera, a lot of people cover their mouth and control their smile. Many books say "To make a good smile, it is important to have high self-esteem and improve themselves." In dentistry, it is often said that white and regular teeth is necessary to make a good expression (smile). In the previous studies, the smile was analyzed by static. But the smiling action was not static but dynamic, it is necessary to analyze the smiling action by dynamic for evaluate a smile. The aim of this study is to analyze the asymmetry of the smiling action by dynamic using the motion capture system. The smiling action of 7 female were taken by DV camera and analyzed by motion capture system. And the angle and speed of corners of mouth, the length of both sides of upper and lower lips were analyzed by mean CV of Asymmetry Index (AI). As a result, in all subjects except for one subject, mean CV of AI significantly decreased in at least one of four parameters after smile training. In one subject, all mean CVs significantly decreased. On the whole, the CV of AI decreased in all four parameters, especially the decrease was significant in the AI-UP. The asymmetry of the lip in the process of smiling action could be dynamically analyzed using a motion capture system. The study results suggest that the smile training could be an effective method to make symmetric smile.