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The effects of sounds on the pain threshold of lower jaw gingiva and autonomic nervous

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Pain in oral cavity is so painful that it causes stress. On the other hand, it is known that pain threshold is reduced by listening to music. In this study, we examined the effects of sounds on the pain perception of gingiva and the relationship with the changes of autonomic nervous activity by four sounds. Twenty-five (25) women were investigated for pain thresholds on the lower jaw gingiva in the oral cavity by using pain vision PS-2100 (Nipro) which a current value gradually increases. The subjects are measured autonomic nervous activity by using Bonaly Light (GMS). These measurements were performed when they were listening to classical music, popular music, the sounds of ultrasonic scaler and alarm clock. The thresholds of pain were significantly higher when the subjects were listening to popular music than those without music. Parasympathetic nervous activity values significantly increased under listening to two kinds of music or scaler's sound compared without sound. Sympathetic nervous activity values significantly decreased under listening to classical music and scaler's sound compared without sound. When subjects heard like classical music, there is equilateral correlation between the pain threshold and the change of the parasympathetic nerve activity and there is negative correlation between the pain threshold and the change of the sympathetic nerve activity. The present findings suggest that the pain perception might be effected with sounds of the environment. In particular, music affects the threshold of pain and the change of autonomic nervous.

Biography

Tsumugu Furuta was graduated from School of Dentistry at Asahi University in 1990. He was graduated from Graduate School of Matsumoto Dental University and acquired PhD in 2017. He has his private dental clinic in Shiga prefecture. He continues the experiments of Oral Pain as a Postdoctoral Fellow at Matsumoto Dental University.

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