were cultured in DMEM supplemented with 10% FCS at 37°C for 30 hours, and exposed to hypoxia condition (1% O2) at 37°C for desired time (24 hours and 60 hours). After the hypoxia treatment, the cells were analyzed by flow cytometry and nuclear staining. Western blotting was also carried out to analyze the expression of p21, cyclinD2, Rb, p53 and phosphorylated p53. Further, the cell cycle in the reoxygenation after the hypoxia also analysed. Result: In normal condition, sub-G1 population, which indicates apoptosis, and G1 arrest were not observed in K4 cells. We found sub-G1 population and G1 arrest on K4 cells after 24 hours-hypoxia. 48 hours-hypoxia increased sub-G1 population and G1 arrest in K4 cells. In addition, DNA fragmentation was observed by Hoechst staining. We also found changes in expression of p21, cyclinD2, Rb, p-p53 in K4 cells after hypoxia. In the reoxygenation after the hypoxia, sub-G1 population and G1 arrest disappeared, and the cell cycle returned to normal condition. We demonstrated that hypoxia induces apoptosis and cell cycle arrest on K4 cells subcloned from pulp cell line. This apoptosis and the cell cycle arrest of pulp cell lines by hypoxia may be dependent on the change in the expression of p21, cyclinD2, Rb. These results suggest that hypoxia is associated with the apoptosis induction on pulp cells during pulp wound healing.

19. 反省すべきは歯科医か —ある総義歯患者をとおして—

○河野 信彦・河野 亮子
こうの歯科クリニック

患者は昭和62年7月26日咬合不全、顎関節症で来院した。患者の歯列はすべてレジンのTEKを装着されていた。当時、開業もなさめで、咬合に関してあまり自信がなかったので、勉強会を一緒に行っている同輩に紹介した。その後患者はさらに歯科医院を転々とし、18年後の平成16年7月8日再度当院を受診した。そのときの口腔内は悲惨なもので、その義歯の異常さにはただ驚くばかりであった。なぜ、そんなものになったのか検証し、自戒しなければならないと強く思い知られた症例を経験した。最近、30代前半の女性で、今回提示した症例に似た患者が来院した。この患者が将来、今回提示したような悲惨な状態にならないという保証はなく、精神科医をも含めたチームアプローチが必要ではないかと考えている。

Should doctors think about themselves in the treatment procedure. —a review of a certain patient with miserable complete dentures—

Nobuhiko Kohno and Ryoko Kohno (Kohno Dental Clinic)

This patient visited my dental clinic with the chief complaint of occlusal incompatibility and temporomandibular disorder in 1989. Her all dentitions were composed of temporary resin prosthesis. At that time, I just opened the clinic and was not a specialist on the occlusion and temporomandibular disorder (TMD). Thus I introduced this patient to the specialist in occlusion and TMD, who was also a member of the same clinical research group. However, this patient changed and visited many different dental clinics and dental college hospital for her irritating occlusal problems. Finally, she returned to my dental clinic again in 2004, for the first time in 18 years. She presented with miserable dentition and occlusion with complete dentures. I was really surprised to observe her intra oral condition and occlusion with unusual dentures. I thought that I should review why her dentition and occlusion was changed to the current condition using surprising unusual dentures throughout her long-term dental treatment. Recently the 32-years old woman visited my clinic with the same complaint of the patient I presented here with the similar condition and symptom. In that case, I am very anxious for her treatment that her occlusion and oral condition might possibly become the same as presented here in the future and think we should now treat her interdisciplinary approach, such as psychiatrist.