(ブラッシング) 群の2群間でのPCR (plaque control record) 測定, 口臭判定, 歯垢中のカンジダ菌数の比較, の順に行った. ブラッシングの実施により, 口腔内清掃効果の改善がみられた. スワブからブラッシングへケアを変更することにより, 口腔内清掃効果の向上がみられたが, ブラッシングは技術習得が難しく, ケアにも時間を要することがわかった. また, これらの活動により口腔衛生に対する看護師の意識の向上がみられた.

Oral care for the tracheal intubated patients in coronary care unit

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The relation between oral hygiene of tracheal intubated patients and VAP (ventilator-associated pneumonia) is regarded as important, and oral care as infectious prevention to develop from intraoral contamination attracts attention. In cooperation with CCU nurse, we tried to systematize safe simple and easy effective oral care this time. The oral tracheal intubated patients who entered a room in CCU between six months until March 2, 2005 from September 1, 2004. 1) Making new protocol of tooth brushing and education of dental knowledge and brushing technique to CCU nurse, 2) Comparison swab with new protocol (brushing) in PCR (plaque control record), foul breath judgement and dental plaque candida number of organisms. By brushing, improvement of an intraoral cleaning effect was noted. Improvement of oral hygiene was noted by changing care from swab to brushing. In addition, improvement of consciousness of a nurse for oral hygiene was noted by these action.

18. 低酸素によるラット歯髄細胞株の細胞周期停止機構の解析

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低酸素環境が様々な細胞において細胞周期停止やアポトーシスをおこすことは知られているが, そのメカニズムについての詳細はまだはっきりと分かっていない. 歯髄細胞は創傷治癒過程において, 低酸素など様々なストレスにさらされる. そこで我々は, 培養歯髄細胞を用いて, 低酸素によって細胞周期停止とアポトーシスが誘導されることを見いだした. 今回その誘導機構を細胞分子生物学的に検討し, さらに低酸素環境から解放された際の細胞周期の変化についても検討した. ラット歯髄細胞株である K4 細胞を, 低酸素環境下で一定時間培養後, 細胞周期とアポトーシスの経時変化をフローサイトメーターとヘキスト染色にて観察し, それに関わるシグナルタンパクの発現をウェスタンブロットにて観察した. また, 低酸素環境で 24 時間培養後通常の酸素濃度に戻し, フローサイトメーターにて細胞周期を観察した. 低酸素環境におかれた K4 細胞をフローサイトメーターで解析すると, G1 期における細胞周期の停止が認められ, アポトーシスに移行していくことが認められた. それとともに, 細胞周期の停止に関わる p21 が認められ, RB の低リン酸化も認められた. さらに長時間にわたる低酸素のストレスは, p53 を介したアポトーシスへの経路がスイッチオンされる可能性が示唆された. また, 低酸素環境により誘導される細胞周期の停止は, 可逆的な現象であることが明らかとなった.

Analysis of cell cycle arrest in dental pulp cell line by hypoxia

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It is known that hypoxia induces apoptosis and the cell cycle arrest on a variety of cells. Recently, we have demonstrated that apoptosis is induced in pulp cells during wound healing. In the healing process, pulp cells are exposed to several stresses such as hypoxia. In this study, we examined the effect of hypoxia and reoxygen on clonal dental pulp cell line. Rat clonal dental pulp cells (RPC-C2A) were subcloned, and one subclone (designated K4) was selected for the present experiment. K4 cells

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 poptosis, 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として—

○河野 信彦・河野 亮子

この歯科クリニック

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, 開業まもなくのことで, 咬合に関してあまり自信がなかったので, 勉強会を一緒にし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, こんなことになったのか検証し, 自戒しなければならぬと強く思い知らさ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類似した患者が来院した。この患者が将来, 今回示したような悲惨な状態にならないという保証はなく, 精神科医をもふく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—

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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 prothesis. 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 18years. 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.