14. 口腔粘膜疾患の臨床的検討 —Candida とのかかわり—

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Candida 属は口腔内常在菌であり、その発症には全身的な要因もさることながら、口腔の不潔、唾液分泌の低下、口腔粘膜の損傷などの局所因子が、関与している場合が多い。近年、高齢人口の増加、難治性疾患の治療法進歩に伴う易感染性宿主の増大によって、口腔カンジダ症やカンジダ関連病変の増加が考えられる。また、最近では、種々の口腔疾患と Candida 菌の関連性を示唆する報告もみられ、口腔粘膜疾患を考える場合、カンジダ菌による多彩な臨床像を把握する必要があると思われる。

今回、私たちは1998年から2000年に口腔粘膜疾患を主訴に、当科を受診した患者のうち、カンジダ検査を実施し得た症例の臨床的検討を行ったところ、口腔粘膜に対するカンジダ関連病変を認識した治療体系の必要性が示唆された。

A clinical analysis of oral mucousal diseases —Relation to candida—

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Sixty-nine cases of candida bacillus positive that were consulted (1998~2000) in our department were clinically analyzed.

The results were as follows

1) Sex incidence was 17 males and 52 females, and their ages ranged from 11 to 91 years old (the mean age was 64.77 years), 81.2 % of patients were over 60 years of age. The occurrence incidence was higher in females than males. 2) The most occurrence sites were tongue (55.7 %), followed by gingiva (13.9 %), buccal mucosa (12.7 %). 3) 64 % were mucosal disease and 33 % were glossodynia. 4) The decrease of saliva secretion was increased in number of the colonies. 5) The rate of candida-positive cases was higher in the denture-wearing patients than in those without dentures. 6) Out of the 65 subjects, 47 (74.6 %) had at least one chronic systemic disease. 7) We consider that oral mucosal diseases are the existence of the foreign substances in the oral cavity, such as candida, a clinical view and, salivary flow rate, and a false tooth, chronic systemic disease. It was suggested that it was important to judge the included oral hygiene state synthetically.

15. オカダ酸誘導アポトーシスにおける Fas 抗原, Fas リガンドの関与

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目的: オカダ酸誘導アポトーシスにおける Fas 抗原, Fas リガンドの関与について検討する。材料と方法: ヒト顎下腺癌由来の細胞株である HSG にオカダ酸処理によるアポトーシスを誘導する。検討項目は, NOK-2 の抑制効果及び Fas 抗原, Fas リガンドの発現に関して, ウェスタンブロッティング, 半定量的 RT-PCR により蛋白レベル, mRNA レベルでの制御についてである。結果: HSG のオカダ酸誘導アポトーシスは NOK-2 により抑制された。アポトーシス誘導の際, 蛋白レベルでは, Fas 抗原及びリガンドとも発現が認められたが, mRNA レベルでは認められなかった。考察: Fas 抗原, Fas リガンドはオカダ酸誘導アポトーシスに関与し, その発現制御は蛋白レベルで行われている。

Okadaic acid up-regulates expression of Fas antigen and Fas ligand in human submandibular gland ductal cell line HSG cells

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Purpose: To investigate the pathway on the induction of Fas/FasL in HSG cells.

Material and methods: We examined the expression levels of mRNA and proteins both of Fas and FasL in HSG cells before and after the treatment with okadaic acid by immunoblot methods and RT-PCR analysis.

Results: HSG cells constitutively expressed the Fas mRNA, as well as the 58-kDa Fas protein. Treatment with Fas agonistic antibody induced their cell death, indicating that Fas in HSG cells is functional. Okadaic acid-induced-Fas expression was elevated in dose- and time-dependent manner, with maximum expression level at 20 nM okadaic acid for 24 h. The FasL mRNA was also detected constitutively in HSG cells using RT-PCR analysis. However, FasL was constitutively undetectable level in HSG cells. Okadaic acid also induced FasL expression, as well as Fas. The molecular weight of FasL was about 68-kDa. Moreover, okadaic acid significantly stimulated FasL protein expression as early as 7 h and the elevated level of FasL was persisted for at least 24 h.

Conclusion: Our results suggest that Fas and FasL system might in part regulate apoptosis in HSG cells and salivary gland cells. These results also indicate that the expression of Fas and FasL might be in part regulated by protein phosphatases sensitive to okadaic acid. Moreover, taken together with the previous results we observed, Fas and FasL system might be, at least partly, involved in okadaic acid-induced apoptosis in HSG cells.

16. 呼気中揮発性硫化物濃度の歯周病リスク診断への応用

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歯周病の発症・進行には、細菌要因ならびに免疫能などの宿主要因が影響しており、それぞれの要因の状態を把握するためのリスク診断が歯周病の予防・治療を行う上で重要となる。また以前我々が報告したように、口臭の主要な原因物質である揮発性硫化物（VSC）の一つであるメチルメルカプタンの産生量は、ストレスマーカーである唾液中のコルチゾルレベルと相関関係があることが認められた。ストレスは宿主の免疫抑制の原因となることが報告されており、呼気中メチルメルカプタン濃度は、宿主の免疫能と関連があることが示唆された。また歯周病原性細菌は高いVSC産生能を有しており、VSC濃度は口腔内の歯周病原性細菌数に影響されている可能性を有している。今回我々は、VSCの口腔健康状態のリスクマーカーとしての有効性を明らかにするため、当科受診中の歯周病患者の呼気中VSCの成分分析を行い、唾液中の嫌気性菌数ならびに歯周健康状態との関連を検証した。その結果、歯周健康状態の改善ならびに、唾液中の嫌気性菌の減少に併せて、メチルメルカプタン濃度が減少する傾向が認められ、呼気中メチルメルカプタン濃度の測定は歯周病の有効なリスク診断法である可能性が示唆された。

The application of volatile sulfur compound measurements in mouth air for assessing risk factors of periodontal diseases

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The aim of the present study was to evaluate whether volatile sulfur compounds (VSC) in mouth air, that are main substances to cause bad breath, was clinically useful as risk marker of periodontal diseases. The study consists of 4 patients with periodontitis. The measurements of VSC (hydrogen sulfide and methyl mercaptan) in mouth air using gas chromatography and the number of salivary anaerobic bacteria cultured on blood agar plates were conducted with assessments of periodontal health condition before and after initial preparation. The methyl mercaptan level and the number of salivary anaerobic bacteria of each patients were reduced following improvement of periodontal health condition. The results suggest the possibility that VSC in mouth air might be useful as diagnostic tool for assessing risk factors of periodontal diseases.