

海外短期研修概要

- 【出張期間】** 平成 20 年 6 月 23 日～ 27 日 (韓国大邱市)
- 【学会名】** 本学研究推進・知的財産センターと大韓民国慶北大学校食品・バイオ産業研究所との学術研究交流協定調印式に伴う学術講演
- 【発表者名】** Shuzo FUJITA, Eriko OHMAE and Masamitsu FUNAOKA
- 【発表論文名】** The antioxidant activity of the Lignophenol from the lignin
- 【趣 旨】** The antioxidant activity of the Lignophenols prepared by a phase-separative reaction system composed of cresol and sulfuric acid was examined. Twelve kinds of Lignophenolic derivatives from Beech and Hinoki were prepared to the experiment. The antioxidant activity to the oxidation of α -linoleic acid of the Lignophenol was examined by peroxidative value (POV) and thiobarbituric acid (TBA) methods. All samples effectively prevent the oxidation of the oil equal to BHA, and both of alkali treatment and alkali-acetylated samples do the oxidation especially. The antioxidant activity of Hinoki having guaiasyl (o-methoxyphenolic) structure tend to be more effective than that of Beech having syringyl one.
(Key word) lignin, lignophenol, antioxidant
- 【出張期間】** 2008 年 7 月 5 日～ 14 日
- 【学会名】** XXIVth International Conference on Polyphenols, ICP2008 (国際ポリフェノール会議 2008), Salamanca, Spain.
- 【発表者名】** Tomohiko Nishijima, Kuniyoshi Iwai, Yoshiki Takida, Yasuo Saito, Hajime Matsue
- 【発表論文名】** High-methoxylated apple pectin enhances the intestinal absorption of quercetin.
- 【趣 旨】** Introduction:
Recently, the absorption and metabolism of flavonoids has attracted much attention among researchers. However, the effects of other food ingredients on the intestinal absorption and metabolism of flavonoids have been hardly elucidated to date. Pectin, a major type of dietary fiber, is widely distributed in fruits and vegetables and possesses several physiological effects such as interactions with lipids, lowering of serum cholesterol, and alteration of the composition of intestinal bacterial flora. These effects depend on the pectin structure, particularly on the degree of methylation and the distribution of free

and methoxylated carboxyl groups in the galacturonan chains. In this study, the effects of two different types of apple pectin, namely, high-methoxylated apple pectin (HMP) and low-methoxylated apple pectin (LMP), on the absorption of dietary quercetin in rats were investigated.

Materials and Methods:

Experiment 1 (Administration of quercetin and apple pectin for 21 d): The control diet (CNT) contained 0.2% quercetin and 5% cellulose, and HMP and LMP were used for pectin diets in place of cellulose. Male Wistar rats (7 weeks old) were fed these diets ad libitum for 21 d. Blood samples were collected at 11 and 21 d from the tail vein, and the plasma metabolites of quercetin were analyzed using a high performance liquid chromatography-diode array detector (HPLC-DAD) after deconjugation with β -glucuronidase and sulfatase. Experiment 2 (Administration of quercetin and apple pectin for 7 d): In another study for one week, male Wistar rats (7 weeks old) were paired-fed the CNT and HMP diets daily for 8 h (8:00 - 16:00). Plasma was sampled daily at 8 and 24 h after the start of feeding, and urine was collected every 24 h. Plasma and urinary metabolites of quercetin were analyzed using a HPLC-DAD after deconjugation with β -glucuronidase and sulfatase.

Results and Discussion:

Experiment 1: At 11 and 21 d, the plasma concentration of quercetin, isorhamnetin and total metabolites in the HMP group was significantly higher than that in the CNT group. LMP hardly affected the plasma levels of quercetin metabolites compared with HMP. Experiment 2: On the first day, the HMP group already showed higher plasma levels of quercetin metabolites than the CNT group. Urinary excretion of quercetin metabolites for the first 24 h in the HMP group was also significantly increased compared with the CNT group.

Conclusion:

Apple pectin can enhance the intestinal absorption of dietary quercetin, and that this enhancement might be dependent on the degree of methylation of the pectin. Furthermore, this effect of pectin was also observed following the first ingestion.

【出張期間】 2008年7月21～7月26日

【学会名】 The 18th International Congress of Linguists

【発表者名】 Barry Kavanagh

【発表論文名】 Japanese Women's language: Ideological Constructs and changing gender roles.

【趣 旨】 The Japanese Language has been characterized as being highly gendered with distinct male and female speech registers (Shibamoto1985). However there seems to be an emerging pattern that suggests that women, in particular young women are abandoning 'traditional' Japanese women's language in favour of more masculine forms. (Okamoto & Sato 1992)

This synchronic study looks at two generations comprising of two sets of women from the rural north of Japan in an investigation to examine whether Japanese women's language use is in fact changing.

The findings showed differences in perceived opinion and actual language use among the two sets of informants with the younger group using fewer feminine forms and more masculine ones than the older group.

This apparent de-feminization process it is argued is a reflection of changing gender roles and ideology particularly among the younger generation and is also an indication that perhaps 'Japanese women's language' is an ideological construct that is not applicable to the rural north of Japan.

【出張期間】 2008年8月26日～9月7日

【学会名】 Activities to prevent childhood lifestyle diseases in the US

【発表者名】 Emi Naijo

【趣 旨】 Purpose: Childhood obesity is not only a risk factor for adult lifestyle diseases, but also causes illnesses such as hypertension, diabetes and hyperlipidemia during childhood. According to a school health survey, the incidence of overweight children in Aomori Prefecture in Japan is higher than the national average for both boys and girls in all age groups. In order to prevent future childhood lifestyle diseases, research on diabetes is active in the US, where the incidence of childhood diabetes is high. The present paper describes the illness prevention activities of nurse practitioners (NPs) at Yale University. Current state of activities to prevent childhood lifestyle diseases: At public clinics, colds and minor injuries are examined and treated, and infants are screened and vaccinated. In medical examinations, detailed inquiries and physical assessments are made, test results are discussed, and treatments and prescriptions are dispensed. Inquiries are important for ascertaining the health status of children and their families, and at clinics, techniques to improve children's lifestyles are explained after listening to children and their families and gathering information about their health status.

In the US, health screenings for children are performed at pediatric departments and hospitals. In addition to the tests that are part of school health examinations (as in Japan), blood tests are also conducted in the US. Children who are found to be overweight at these screenings are referred to NP clinics. At NP clinics, past medical histories and dietary and exercise habits are carefully ascertained, and systemic physical assessments are made so that health education can be provided to improve the lifestyles of children and their families. Children and their families practice what they learn at home, and blood tests and physical assessments are performed again at the next visit to assess improvements in lifestyle and encourage the continued development of better habits. At elementary, junior high, and high schools, the TWEEN (Type 2 diabetes: decreasing your risk, Weight management: feeling good, Exercise: making it fun, Education: making it fun, Nutrition: eating healthy) study is now being conducted. In order to lower the risk of obesity and type 2 diabetes, students learn to manage their body weight, exercise and eat proper foods. Various healthcare professionals, including school nurses, teachers, and dieticians, are involved, and measures are put forth to prevent obesity and improve lifestyle not only children, but in their families as well. Conclusions: In the US, where the incidence of childhood lifestyle diseases is high, various healthcare professionals are taking active roles in improving the lifestyles of children and their families and in providing education for disease prevention at elementary, junior high, and high schools and general clinics. At clinics specializing in obesity, health education involving families is administered in collaboration with other professionals. In Japan, NP education is still in its primary phase. At present, nurses and public health nurses are the closest equivalent to NPs in Japan. In the future, it is necessary to tackle the issue of childhood lifestyle diseases at hospitals and municipalities. In addition, collaborating with other specialists, such as physicians, dieticians and physical therapists, should maximize the ability of all involved to encourage the prevention of childhood diseases and, eventually, adult lifestyle diseases.