

for the aged living alone. However, most of them are not commercially available yet. For several years, we have been developing such a system, and we have been doing frequent field experiments for more than 2 years. In a previous paper, we reported on a system which can send the health information of the aged to family members living separately via the Internet. However, that system had some problems concerning methods of analysis and cost. This paper reports on attempts to make the system more practical utilizing actual experiences.

A Modification of Voice-Stimulation Tapes for Dichotic Listening Tests and its Application: Measuring Hemispheric Cognitive Lateralization of Speech and Size of the Corpus Callosum

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Cognitive laterality of speech and melody in the cerebral hemispheres was studied in 30 right-handed normal adults (18 to 26 years of ages, 16 females and 14 males) using the Dichotic listening test (DLT). The stimulation tapes for the DLT were comprised of sets of monosyllables, numerals, and melodies. The monosyllable and numeral tapes used were versions modified with a digital recording editing apparatus. Mid-sagittal MRI images through the corpus callosum were taken of all subjects and a word fluency test (WFT) was also performed. The relationship between DLT or WFT values and regions of the corpus callosum were examined in both female and male subjects.

With monosyllables, DLT results of female subjects indicated a left-ear (right hemispheric) predominance ($p < 0.05$), while there was no significant lateral difference in males. With numerals, DLT values showed no significant lateral differences in both males and females. With melodies, DLT results indicated a left-ear (right hemispheric) predominance ($p < 0.05$) in males, while there was only a tendency toward left-ear predominance in females. WFT values, however, revealed no sexual differences.

Relative ampullary sizes of the corpus callosum through the midsagittal plane disclosed a negative correlation with the left hemispheric predominance found with monosyllable-DLT in the male subjects, but showed a positive correlation with the left predominance in females. The ampullary sizes also correlated positively with WFT values in females and with left hemispheric predominance in melody-DLT.

These findings suggest sexual differences in lateral predominance with respect to hemispheric cognitive functions and the relationships between those functions and ampullary size of the corpus callosum.

Properties of Protease Produced by *Staphylococcus epidermidis*

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Ninety strains of *Staphylococcus epidermidis* were isolated from the right forefingers of healthy people. The amount of protease activity produced by those 90 strains was measured by the calcium-casein agar plate method. Eighty-four out of 90 strains tested (93.3%) showed protease activity, and the most active strain, UNO67, was selected for use in future experiments. Some biochemical properties were examined by using the culture supernatant of the UNO67 strain as a protease solution. The heat tolerance was tested first. Protease activity completely disappeared when it was heated for 10 minutes at 70 °C. As a result, this protease was classified as a heat labile enzyme. Next, pH dependency was measured and it was shown that the optimal pH had a wide neutral range (pH 5 to 9).

Protease activity was inhibited by EDTA, phosphoramidon, phenanthroline and HgCl₂ but NEM, pepstatin A and SBTI had no effect. This indicated that the protease was a metaroprotease. According to the