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| 5F7-1 | 31 Mar | 15:45-14:00 | Chi 中 |
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| Title of presentation演講題目 | The characterization of handwriting problems in subjects with cognitive dysfunction |
| Abstract / ppt摘要 / 幻燈 | This study proposed a new technology to assess the accuracy of Chinese handwriting by comparing every stroke movement between a template model and a handwritten script. It tested the feasibility of a computerized evaluation in the parameterization of the handwriting deterioration caused by impaired cognitive function. This study recruited 22 participants with Alzheimer’s disease (AD) and 14 with amnestic mild cognitive impairment (aMCI); 18 age- and gender-matched healthy elderly individuals made up the control group. The graphomotor tasks included drawing four straight lines (vertical, horizontal, and two diagonal) to test stroke movements mostly using equivalent, nonequivalent, wrist, or finger movements, as well as writing Chinese words with simple vertical, horizontal and diagonal strokes. The temporal and spatial data were calculated to measure the motor coordination. The results in geographic drawing tests reveal significant differences among the three groups in task accuracy and movement fluency, especially in nonequivalent and wrist movements. The accuracy control of the graphic drawing in the AD and MCI groups was significantly lower than that for the subjects in the normal group. These two groups also showed longer pauses in stroke movement with the handwriting tasks. The handwriting accuracy in the AD and aMCI groups was found to be significantly different from that of the subjects in the normal group. The results of this study can be used as an indicative reference for early detection of AD or MCI, an objective evaluation for effectiveness interventions, and an assessment of disease progression. |