

A human friendly reporting and database system for brain PET analysis

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We have developed a human friendly reporting and database system for clinical brain PET (Positron Emission Tomography) scans, which enables statistical data analysis on qualitative information obtained from image interpretation. Our system consists of a Brain PET Data (Input) Tool and Report Writing Tool. In the Brain PET Data Tool, findings and interpretations are input by selecting menu icons in a window panel instead of writing a free text. This method of input enables on-line data entry into and update of the database by means of pre-defined consistent words, which facilitates statistical data analysis. The Report Writing Tool generates a one page report of natural English sentences semi-automatically by using the above input information and the patient information obtained from our PET center's main database. It also has a keyword selection function from the report text so that we can save a set of keywords on the database for further analysis. By means of this system, we can store the data related to patient information and visual interpretation of the PET examination while writing clinical reports in daily work. The database files in our system can be accessed by means of commercially available databases. We have used the 4th Dimension database that runs on a Macintosh computer and analyzed 95 cases of ^{18}F -FDG brain PET studies. The results showed high specificity of parietal hypometabolism for Alzheimer's patients.

Key words: database, reporting system, brain PET, statistical analysis, brain PET image visual interpretation