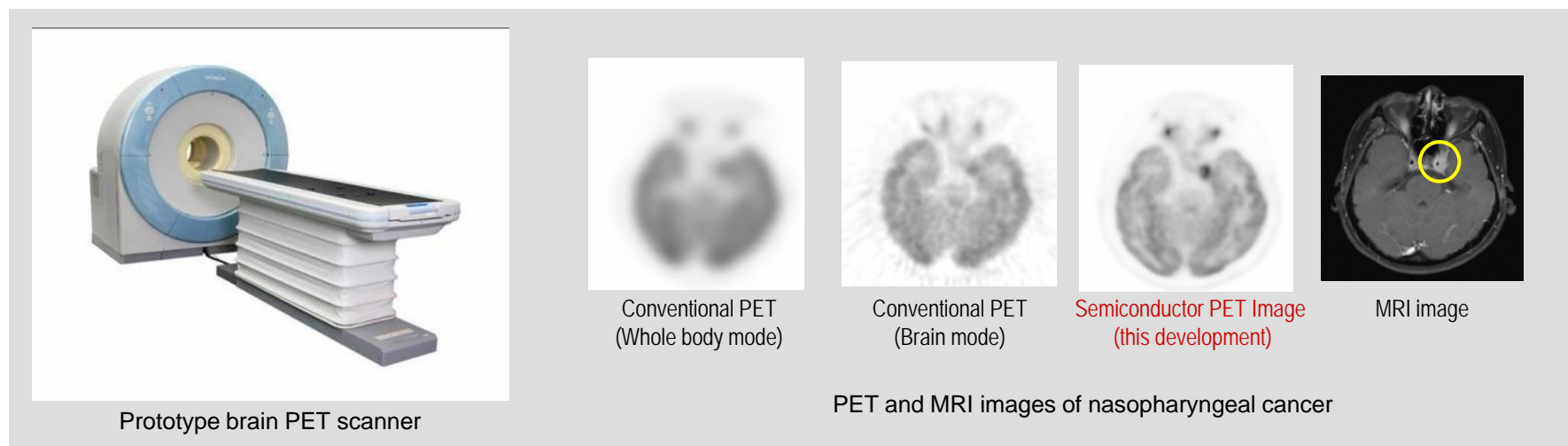


2008/10/28 Release

First successful diagnostic imaging of carcinoma using semiconductor PET technology



Hokkaido University and Hitachi, Ltd. have developed positron emission tomography (henceforth, PET) technique to scan the human brain, head and neck using a semiconductor detector, and obtained images of various carcinoma as well as diagnostic images of other disorders. The semiconductor PET developed is based on the prototype machine developed for small animals in 2005, and enables high precision measurement with a gamma ray energy resolution of less than 5% and image spatial resolution of less than 3mm. The minute changes in metabolic activity within carcinomas was successfully observed as part of research on next-generation molecular diagnostics at Hokkaido University Hospital using the semiconductor PET developed. By applying the PET developed to high precision molecular diagnostics, and observing the changes within carcinoma, it is hoped that this technology will contribute to determining the most appropriate treatment for individual patients.

© 2008 Hitachi, Ltd., Research & Development Group. All rights reserved.

Result of joint research with Hokkaido University and Shionogi & Co., Ltd., as part of the "the Matching Program for Innovations in Future Drug Discovery and Medical Care," of MEXT's "Creation of Innovation Centers for Advanced Interdisciplinary Research Areas" program funded by the Special Coordination Funds for Promoting Science & Technology (SCF)