

Accumulation of glucose in keloids with FDG-PET

Toshiyuki OZAWA,* Terue OKAMURA,** Teruichi HARADA,* Michinari MURAOKA,*
Nozomi OZAWA,** Koichi KOYAMA,** Yuichi INOUE** and Masamitsu ISHII*

*Department of Plastic and Reconstructive Surgery, Osaka City University, Graduate School of Medicine

**Department of Radiology, Osaka City University, Graduate School of Medicine

Objective: Glucose metabolism has not been investigated in human (*in vivo*) keloids. In the present study, we performed positron emission tomography (PET) with fluorine-18-fluorodeoxyglucose (FDG) to examine glucose metabolism in keloids. **Materials and Methods:** Five patients (2 men and 3 women) with typical keloids having a thickness of more than 5 mm were studied. HEADTOME-IV SET-1400W-10 (Shimadzu, Tokyo, Japan) was employed for PET studies. Transmission scanning was performed on each patient. After fasting for more than 4 hours, the patients were injected intravenously with FDG 185–370 (MBq) following each transmission scan. Emission scans were performed 40–55 min after injection. For quantitative evaluation, the regions of interest (Circles ROIs: 6 mm in diameter) were placed on all the keloid lesions and surrounding tissues, and then their standardized uptake value (SUV = the tissue concentration/the activity injected per body weight) was calculated. **Results:** FDG was defined as showing the accumulation in keloids when its uptake was relatively higher in the keloid than that in the surrounding tissue. The SUV of the keloids ranged from 1.0 to 2.74, with a mean of 1.79. **Conclusion:** FDG-PET was performed in 5 patients with keloids and low-grade accumulation of FDG was observed in all lesions. This indicated that glucose metabolism was accelerated in keloids.

Key words: keloids, FDG-PET, glucose metabolism