

## Summary

### Usefulness of $^{67}\text{Ga}$ Scintigraphy in Deciding Surgical Indication in Secondary Hyperparathyroidism

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In order to evaluate the usefulness in deciding surgical indication in secondary hyperparathyroidism (SHP),  $^{67}\text{Ga}$  scintigraphy was performed in 37 patients of SHP before parathyroidectomy (PTx). The radionuclide accumulation in skull and submandible was classified into 4 patterns (skull-submandibular pattern, skull pattern, submandibular pattern and normal pattern). Serum alkaline phosphatase levels were significantly elevated in patients of skull-submandibular pattern (13 cases) compared with skull pattern (6 cases), submandibular pattern (6 cases) and normal pattern (12 cases). Serum intact parathyroid hormone levels were significantly elevated in patients of skull-submandibular and skull patterns compared with normal pattern. No significant difference was observed

among the weight of resected parathyroid glands. In 4 of 6 patients of normal pattern on  $^{67}\text{Ga}$  scintigram, bone scintigraphy showed a characteristic pattern of SHP including an increased accumulation in the skull and submandible. Bone mineral density (BMD) in the distal radius was increased within six to twelve months after PTx in 10 of 11 patients of skull-submandibular pattern on  $^{67}\text{Ga}$  scintigram, whereas only one patient showed an increase in BMD in 9 patients of normal pattern. In summary, it was concluded that  $^{67}\text{Ga}$  scintigraphy could provide a useful information in deciding the indication for PTx in secondary hyperparathyroidism.

**Key words:**  $^{67}\text{Ga}$  scintigraphy, Secondary hyperparathyroidism, Parathyroidectomy.