

COMPARATION OF DUAL TRACER Tc99m-TETROFOSMIN/Tc-99m PARATHYROID SCINTIGRAPHY AND ULTRASOUND FINDING IN PATIENTS WITH HYPERPARATHYROIDISM

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THE AIM OF THE STUDY was to estimate and compare sensitivity of dual tracer Tc99m-tetrofosmin and Tc-99m scintigraphy and ultrasound in detection of abnormal parathyroid glands in patients with primary and secondary hyperparathyroidism.

MATERIAL AND METHODS: Fourty six patients, thirty with primary and sixteen with secondary hyperparathyroidism were studied. Thirty two patients had patohistological confirmation of diagnosis. Abnormal parathyroid glands weiged from 0.1 to 7 g. After iv. injection dynamic scintigraphy for 25 minutes (one minute one picture) using 555MBq of Tc99m-tetrofosmin, and three hours latter, using 111MBq of Tc99m was performed. Tc99m-tetrofosmin dynamic study was followed by static scintigraphy of neck and chest 30 minutes, 1, 2 and 3 hours after iv. injection.

RESULTS: Abnormal scintigraphic finding had 44 patients with sensitivity of 96%, while ultrasound was positive in 24 patients with sensitivity of 52%. For primary hyperparathyroidism sensitivity for scintigraphy was 93% and for ultrasound 50%. In secondary hyperparatyroidism scintigraphy was abnormal in all patients (sensitivity 100%) and ultrasound was abnormal in 9 patients (sensitivity 50%). In patients with secondary hyperparathyroidism scintigraphy detect 30 from 47 abnormal glands (sensitivity 64%), ultrasound detect 16 glands (sensitivity 34 %). Overall sensitivity of scintigraphy in decting 58 from 77 abnormal parathyroid glands was 75%, and for ultrasound in detecting 31 gland sensitivity was 40%.

CONCLUSION: In this group of patients, abnormal scintigrafic finding in 44 patients (sensitivity 96%) and detecting 58 from 77 glands (sensitivity 75%) showed high sensitivity of dual tracer Tc99m-tetrofosmin/Tc99m parathyroid scintigraphy, while sensitivity of ultrasound in detection of abnormal parathyroid glands was much lower.