

KQ4. 전이성 유방암의 치료 반응 평가와 예후 예측에 PET/CT가 도움이 되는가?

출처 문헌번호	문헌정보	연구유형	대상자수	연구결과	Study quality (KCIQ)
116	J. A. Whitman, I. E.Bergsland, E. K.Suh, I.Hope, T. A. Assessment and Comparison of ¹⁸ F-Fluorocholine PET and ^{99m} Tc-Sestamibi Scans in Identifying Parathyroid Adenomas: A Metaanalysis. Journal of Nuclear Medicine. 2021.	Systematic review	796	¹⁸ F-FCH PET had a high sensitivity, 0.97 (range, 0.96–0.98), for the detection of abnormal parathyroid adenomas. In the subpopulation for which both ¹⁸ F-FCH and ^{99m} Tc-sestamibi were reported, ¹⁸ F-FCH also had a higher sensitivity, 0.96 (0.94–0.98), than the 0.54 (0.29–0.79) reported for ^{99m} Tc-sestamibi (P < 0.001).	2
117	C. E. H. Graves, T. A.Kim, J.Pampaloni, M. H.Kluijfhout, W.Seib, C. D.Gosnell, J. E.Shen, W. T.Roman, S. A.Sosa, J. A.Duh, Q. Y.Suh, I. Superior sensitivity of ¹⁸ F-fluorocholine: PET localization in primary hyperparathyroidism. Surgery. 2022.	Exploratory (prospective)	101	In 101 patients, ¹⁸ F-fluorocholine positron emission tomography localized at least 1 candidate lesion in 93% of patients overall and in 91% of patients with previously negative imaging, leading to a change in preoperative strategy in 60% of patients. Of 76 patients who underwent parathyroidectomy, 58 (77%) had laboratory data at least 6 months postoperatively, with 55/58 patients (95%) demonstrating cure. ¹⁸ F-fluorocholine positron emission tomography successfully guided curative surgery in 48/58 (83%) patients, compared with 20/57 (35%) based on ultrasound and 13/55 (24%) based on sestamibi. In a location-based analysis, sensitivity of ¹⁸ F-fluorocholine positron emission tomography (88.9%) outperformed both ultrasound (37.1%) and sestamibi (27.5%), as well as ultrasound and sestamibi combined (47.8%).	2
118	F. B. Bioletto, M.Parasiliti-Caprino, M.Prencipe, N.Berton, A. M.Procopio, M.Deandreis, D.Ghigo, E. Comparison of the diagnostic accuracy of ¹⁸ F-Fluorocholine PET and ¹¹ C-Methionine PET for parathyroid localization in primary hyperparathyroidism: a systematic review and meta-analysis. European Journal of Endocrinology. 2021.	Systematic review	942	The pooled sensitivity of ¹⁸ F-Fluorocholine was higher than that of ¹¹ C-Methionine (92% vs 80%, P < 0.01), while the positive predictive value was similar (94% vs 95%, P = 0.99). These findings were confirmed in multivariable metaregression models, demonstrating their apparent independence from other possible predictors or confounders at a study level.	2
119	A. B. Piccardo, G.Boccalatte, L. A.Camponovo, C.Musumeci, M.Bacigalupo, L.Collaud, C.Ugolini, M.Fiz, F.Trimboli, P. Head-to-head comparison among ¹⁸ F-choline PET/CT, 4D contrast-enhanced CT, and ¹⁸ F-choline PET/4D contrast-enhanced CT in the detection of hyperfunctioning parathyroid glands: a systematic review and meta-analysis. Endocrine. 2021.	Systematic review	153	Of the 78 records identified, five articles (153 PHPT patients) published between January the 1st, 2018 and January the 31st, 2021 were included. The pooled DR of ¹⁸ F-choline PET/CT, 4DCeCT and ¹⁸ F-choline PET/4DCeCT was 0.86, 0.69, and 0.86, respectively, while their pooled sensitivity was 0.89, 0.77 and 0.93, respectively. The analysis of pooled discrepancy showed that the sensitivity of ¹⁸ F-choline PET/CT and ¹⁸ F-choline PET/4DCeCT was higher than that of 4DCeCT by 0.11 and 0.13, respectively, the sensitivity of ¹⁸ F-choline PET/4DCeCT being 0.06 higher than that of ¹⁸ FCholine PET/CT.	2
120	S. W. S. Lee, S. R.Jeong, S. Y.Kim, S. J. Direct Comparison of Preoperative Imaging Modalities for Localization of Primary Hyperparathyroidism: A Systematic Review and Network Meta-analysis. JAMA Otolaryngology-- Head & Neck Surgery. 2021.	Systematic review	8495	A total of 8495 patients from 119 direct comparative studies using 2 or more imaging modalities for localization of pHPT were included. The sensitivity of choline positron emission tomography and computed tomography (PET-CT) was significantly higher than that of technetium ^{99m} sestamibi single-photon emission computed tomography (MIBI SPECT) in both patient-based and lesion-based analyses (patient-based analysis: odds ratio, 5.22; 95% CrI, 2.36-11.80; lesion-based analysis: odds ratio, 17.70; 95%CrI, 5.79-60.10). Among 8 representative imaging modality categories, choline PET-CT showed the highest SUCRA value in both patient-based and lesion-based analyses. In patient-based analysis after 2010, choline PET-CT showed the highest SUCRA value, followed by the CT category, although MIBI SPECT had the highest SUCRA value in analysis before 2009.	2
121	L. R. Evangelista, I.Magnani, F.Iacobone, M.Giraud, C.Camozzi, V.Spimpolo, A.Cecchin, D. ¹⁸ F-choline PET/CT and PET/MRI in primary and recurrent hyperparathyroidism: a systematic review of the literature. Annals of Nuclear Medicine. 2020.	Systematic review	1112	Twenty-three articles and 1112 patients were considered. Different FCH PET/CT acquisition protocols were adopted across the studies, using dynamic, early or delayed scans. FCH PET/CT proved more accurate than ultrasonography (US) or ^{99m} Tc-sestamibi single-photon emission tomography (SPET). PET/MRI also seemed to be more accurate than MRI alone in detecting benign parathyroid lesions. FCH PET/CT is more accurate than conventional morphological and functional imaging modalities (US or SPET) for the detection of benign parathyroid lesions. It could, therefore, be a reliable tool in both primary and recurrent hyperparathyroidism.	2
128	A. S. Cuderman, K.Rep, S.Hocevar, M.Kocjan, T.Sever, M. J.Zaletel, K.Lezaic, L. ¹⁸ F-Fluorocholine PET/CT in Primary Hyperparathyroidism: Superior Diagnostic Performance to Conventional Scintigraphic Imaging for Localization of Hyperfunctioning Parathyroid Glands. Journal of Nuclear Medicine. 2020.	Observational (retrospective)	103	Diagnostic performance of ¹⁸ F-fluorocholine PET/CT surpassed conventional scintigraphic methods (separately or combined), with calculated sensitivity of 92% for PET/CT and 39%–56% for conventional imaging (65% for conventional methods combined) in the entire patient group. Subgroup analysis, differentiating single and multiple hyperfunctioning parathyroid glands, showed PET/CT to be most valuable in the group with multiple hyperfunctioning glands, with sensitivity of 88%, whereas conventional imaging was significantly inferior, with sensitivity of 22%–34% (44% combined).	1