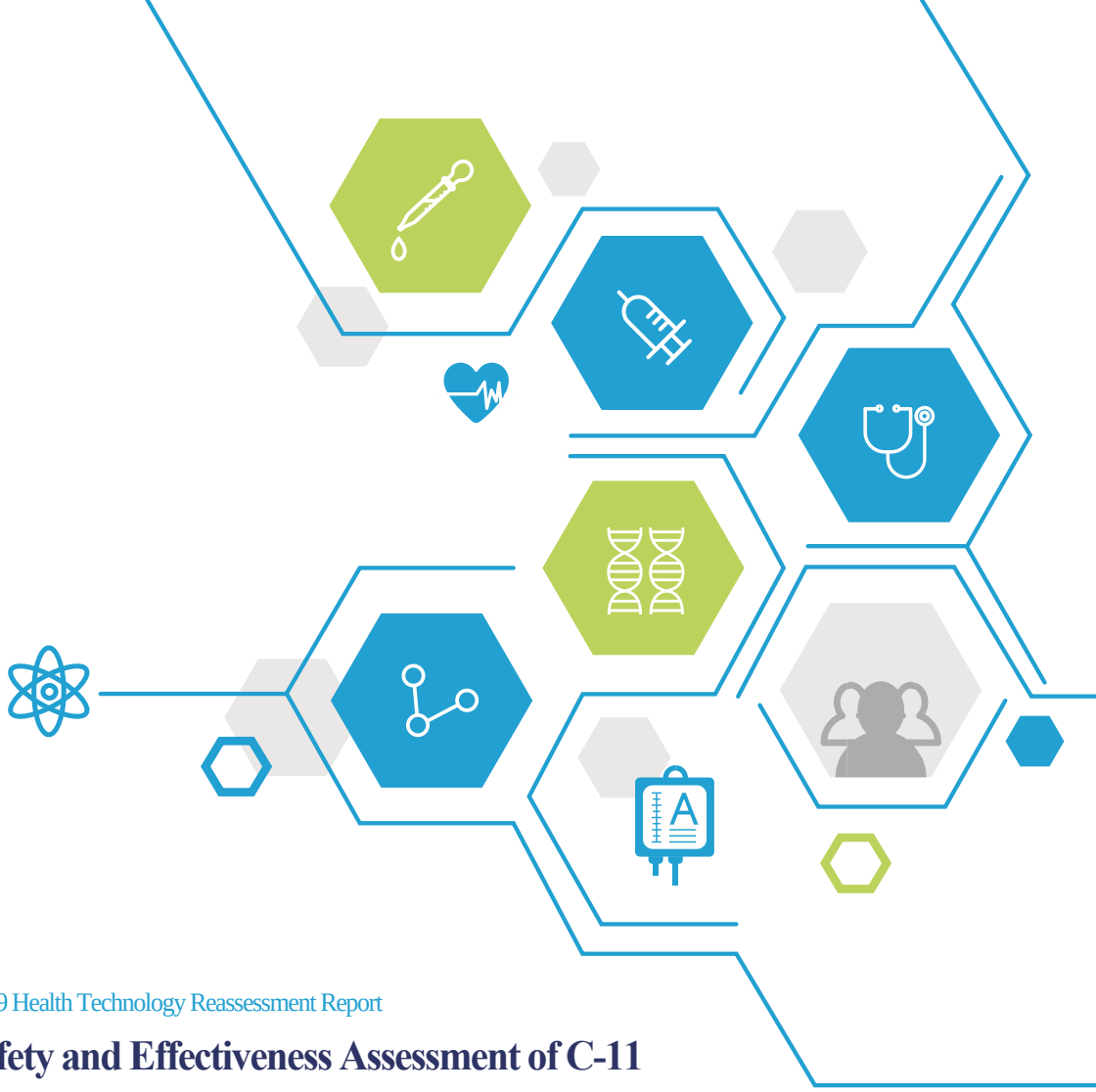

2019 Health Technology Reassessment Report

Safety and Effectiveness Assessment of C-11 Acetate Positron Emission Tomography(PET)

NECA
한국보건의료연구원

Abstract (English)

□ Assessment background

The Korean National Evidence-based Healthcare Collaborating Agency is conducting a program to reassess items that it has been commissioned to reassess by the Korean Health Insurance Review and Assessment Service. The present study derived assessment results on the safety and effectiveness of C-11 acetate positron emission tomography (PET) for liver cancer diagnosis by adding the latest literary evidence to the literary evidence previously used during new health technology assessment of C-11 acetate PET performed in 2010.

□ Committee operation

The subcommittee consisting of a total of seven members conducted report review and three subcommittee meetings over a 4-month period between June and September 2019.

In 2019 (October 11, 2019), the Health Technology Reassessment Committee conducted the final review on the assessment results of C-11 acetate PET for liver cancer diagnosis.

□ Assessment methods

To reassess the safety and effectiveness of C-11 acetate PET scan for liver cancer, a systematic literature review was performed on articles newly published after the studies that were used in previous new health technology assessment.

□ Assessment results

A. Selection of articles being assessed

A total of 311 articles were searched in domestic and foreign databases (300 foreign and 11 domestic articles), and ultimately, 10 domestic/foreign articles were selected through literature review.

B. Safety

There were no articles that reported on any complications or adverse events associated with the technology being assessed.

C. Effectiveness

Additional positive detection rate of C-11 acetate PET scan was found to be 15-60%, which was higher than that of F-18 FDG PET (comparator). There was a total of seven articles which presented or calculated at least one indicator value for diagnostic accuracy for hepatocellular carcinoma. Of these, all indicators associated with diagnostic accuracy could be derived in three articles, while the remaining three studies reported only sensitivity. The sensitivity of C-11 acetate PET was higher than that of F-18 FDG PET in most studies. Sensitivity increased when both test methods were used together, as compared to when each was used alone.

Two articles that presented the results on the treatment response, post-treatment prognosis, and recurrence prediction for liver cancer reported that using C-11 acetate PET in addition to F-18 FDG PET was useful for treatment since doing so provided additional information about the patient condition.

□ Conclusions

The C-11 acetate PET subcommittee proposed the following based on the currently available assessment results.

There were no articles that reported on the safety of C-11 acetate PET. With respect to the effectiveness aspect, additional positive detection rate and sensitivity were higher than F-18 FDG PET, the comparator test. The additional information obtained from the latest literary evidence was found to be similar to the information from the articles used in the new health technology assessment performed in 2010. Accordingly, it was determined that C-11 acetate PET is a safe and effective test method for assessing, diagnosing, and monitoring primary or recurrent liver cancer.

The Health Technology Reassessment Committee reviewed and determined that the findings of the subcommittee on C-11 acetate PET are valid (October 11, 2019).