

## **Abstract**

The aim of this study was to explore enhancement patterns of different types of primary lung cancers on 2-phase dynamic computed tomography (CT). This study included 217 primary lung cancer patients (141 adenocarcinomas [ADs], 48 squamous cell carcinomas [SCCs], 20 small cell lung carcinomas [SCLCs], and 8 others) who were examined using a 2-phase dynamic scan. Regions of interest were identified and mean enhancement values were calculated. After excluding the 20 SCLCs because these lesions had different clinical stages from the other cancer types, the mean attenuation values and subtractions between phases were compared between types of non-small cell lung carcinomas (NSCLCs) using the Kruskal–Wallis test. Late phase attenuation and attenuation of the late minus unenhanced phase (LMU) of SCCs were significantly higher than those of ADs ( $p<0.05$ ). To differentiate SCC and AD in the late phase, a threshold of 80.21 Hounsfield units (HU) gave 79.2% accuracy. In LMU, a threshold of 52.16 HU gave 59.3% accuracy. Dynamic lung CT has the potential to aid in differentiating among NSCLC types.

**Keywords:** differentiation, dynamic computed tomography, primary lung cancer, enhancement pattern