ABSTRACT

The determination of Diagnostic Reference Level (DRL) is essential to help control and optimize the radiation dose given to patients during diagnostic procedures. In this study, DRL were deterrmined based on Size-Spesific Dose Estimate (SSDE) calculations for adult head CT-Scan examinations using a 16-Slice CT-Scan. The determination of DRL was conducted using secondary data that were collected and analyzed according the guidelines of the International Commission on Radiological Protection (ICRP) and the Nuclear Energy Regulatory Agency (BAPETEN). DRL were established using the 75th percentile of the SSDE and DLP distribution. The study results showed that SSDE is lower compared to DLP, with the DRL based on SSDE being 1159,9 mGy.cm and the DRL based on DLP being 1306 mGy.cm. Currently, there is no national standard for SSDE-based DRL, so there is no benchmark for comparison. Meanwhile, BAPETEN has set the DRL based on DLP at 1275 mGy.cm.

Kata Kunci : 16-Slice CT-Scan, DRL, SSDE, DLP, CTDIvol, Scan Length