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Accuracy of Emergency and Critical Care Residents Reading of Emergency Cranial CT Scans as Compare to the Neuroradiologist Experience from Two Medical Schools in Ethiopia

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Introduction: Emergency departments are crucial entry points to healthcare services and usually overcrowded. The use of cranial CT in ED patients could be influential in clinical decision making by improving diagnostic confidence and have impact on treatment plan. While the accuracy of interpretation of brain CT scan by emergency physicians is of crucial importance, many EM residency programs do not allocate enough time to brain CT scan interpretation trainings.

Objectives: was to determine accuracy of emergency medicine residents of Addis ababa university(AAU) and St Paul mellinium medical collegue(SPMMC) in the assessment of cranial CT scans, May 2019.

Methodology: A prospective cross-sectional study was employed to assess the CT scan interpretation skills of EMCC residents of AAU, and SPMMC. Data collected from May 2019 - June 2019 by using structured questionnaires as well as through radiant view software by displaying the full slices of the cranial CT scans. Data was entered, cleaned, edited and analyzed by using SPSS 20.0 version statistical software. And analysis was also done by excel 2016.

Results: Forty two emergency and critical care residents were enrolled in this study. Over all accuracy rate in interpretation cranial CT scans was 57.6%, The overall discrepancy rate was very high (42.4%) compared to prior studies. The sensitivity of the residents in detecting normal radiographs was 62.6% with specificity of 96%, PPV of 66.3% and NPV of 95.3%. Most residents correctly identified haemorrhage (97.6%) & hydrocephalus (90.5%). All resident missed CT scan of herniation and 92.9% of the residents missed meningeal enhancement. Being female and book reading habit were independently associated with better interpretation of cranial CT scans (p-0.036, p-0.04 respectively).

Conclusion: The skills of residents in interpreting cranial CT results are very low regardless of the prevalence of the condition in the ER or the relative clinical importance of the conditions. Poor sensitivity and high false positive results with misinterpretations were common. This can result in potentially dangerous patient mismanagement.

Biography:

Nathan Muluberhan is a young physician from Ethiopia, he had studied a medical doctor at Haramaya University and he currently a last year emergency and critical care resident at Addis Ababa university.