OMICS Group Conferences
Accelerating Scientific Discovery

International Conference on
Radiology & Imaging
August 14-16, 2013 Holiday Inn Chicago-North Shore, IL, USA

Patient radiation dose assessment in pelvic X-ray examination in Ghana

Eric K. Ofori
University of Ghana, Ghana

Protecting the gonads of children and adults is of particular importance during diagnostic imaging of the pelvis since evidence suggests that X-rays could cause direct damage to the gonad which could result in mutation. Gonad shielding during diagnostic X-ray procedures is an effective way of reducing dose to patients' reproductive organs and reduces the risk of genetic effects in future generations. Given the unavoidable harmful potential effects associated with exposure to ionizing radiation, it is important not just to provide gonad shielding, but also to measure patient doses, and reduce them where possible. The aim of this study was to provide patient dose estimates for pelvic examination being undertaken at selected diagnostic centers in Ghana as a baseline data for pelvic dose optimization in Ghana. Dose measurements were calculated on 323 patients (137 (42%) male, 186 (58%) female, ages, 38.56yr ± 9.0; range 20–68). The entrance surface dose (ESD) was determined by an indirect method, using the patient's anatomical data and expo¬sure parameters utilized for the specific examination. The Quality Assurance Dose Database software (QADDs) developed by Integrated Radiological Services Ltd. in Liverpool, UK was used to generate the ESD values. There were variations in the technique factors used in all the centers as compared to the recommendations in the European Commission (EC) quality criteria. Eighty percent of the hospitals recorded lower ESD values below IAEA recommended diagnostic reference levels (10 mGy) and 40% of the hospitals exceeded the UK national reference value (4 mGy). The varia¬tions in the data recorded demonstrate the importance of creating awareness by the radiographic staff on quality assurance and standardization of protocols to ensure satisfactory standards and optimized radiation dose to patients and staff.

Biography

Eric Kwasi Ofori studied M.Phil. at City University, London and then transferred to University of Liverpool, UK to pursue Ph.D. degree in Health Sciences (Medical Imaging). He currently lectures in diagnostic imaging equipment in the Radiography Department, School of Allied Health Sciences, University of Ghana. He has published 10 papers in reputed journals and has supervised 50 undergraduate and 20 postgraduate projects. His research areas include quality assurances issues in diagnostic imaging, patient radiation protection and diagnostic imaging techniques.

erikof2001@yahoo.co.uk