

عنوان مقاله:

Assessment of X-Ray Tube Technical Factors: Tube Voltage and Exposure Time in Erbil Medical Imaging Centers

محل انتشار:

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خلاصه مقاله:

Background: An evaluation of certain radiographic factors affecting patient exposure during medical imaging was carried out. Factors considered included selection of tube kilovoltage and time exposure combination. An increase in X-ray tube voltage increases the amount of radiation coming out of the X-ray tube, as well as the amount of skin dose in the image. This study aimed to assess the possibility of reducing the voltage and exposure time in medical imaging centers. The study indeed intended to protect patients from the risk of developing cancer with excessive radiation dose. **Materials and Methods:** This study was performed in Erbil hospitals, Iraq. NOMEX multimeter (Finland, PTW) was used to measure radiation dose (mGy), total voltage, current (mA), exposure time (s), and total filtration in ۱۵۰ patients undergoing different X-ray examinations. **Results:** The results showed that the highest output was obtained in the age group of ۴۲-۷۰ years (dose range: ۵۲.۴۳-۱۹.۴۶ mGy), followed by the age group of ۵۰-۷۰ years (dose range: ۳۹.۹-۲۵.۶۳ mGy) and the age group of ۱۰-۴۰ years (dose range: ۳۰.۳۵-۱۰.۵۵ mGy). **Conclusion:** The high voltage (kVp) and high exposure time to be important factors to increase patient doses via increasing the exposure dose. Thus, optimization of exposure time and voltage is recommended for all cancer patients undergoing medical imaging .with high voltage and long exposure time

کلمات کلیدی:

X-ray output, Voltage (Kvp), Exposure time, Radiographic projection

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