Does Integration of Personalized Ultrasound into Ward Rounds Influence Patient Management?

Poster Contributions
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Background: Point-of-care ultrasound has become more popular in the environment of acute and critical care medicine. There is an ongoing debate as to whether miniaturization of ultrasound machines can improve patient care. The potential personalized usage opens up the field of ultrasound in acute and critical care medicine for a large group of new users. Our aim, therefore, was the frequency of use, decision-making, and time consumption of personalized ultrasound (PersUS) implementation in the daily routine.

Methods: In a cardiological and nephrological speciality care unit a PersUS (VscanTM; GE Healthcare, Wauwatosa, WI, USA) device was randomized between two wards by switching presence or absence on alternating calendar days. The ward rounds teams were blinded to the study aims and differed from day to day. They were instructed to use PersUS whenever it was available and note the times and indications of use. All data was then sorted into Group A (control group) or Group B (PersUS). Exam time per patient per ward round was calculated. Our null hypothesis was that the exam time per patient would not change significantly by using PersUS on ward rounds.

Results: Patients were enrolled between July 2010 and September 2011 after approval of the Ethics Comittee. The PersUS was integrated into 53 regular ward rounds with a total of 1007 patients on two wards. Mean ward round operation time was 142±33 minutes with 18±3 patients per ward. In 194 of 1007 (19 %) patient visits an ultrasound exam was requested. The average PersUS examination time was 3.6±2 minutes per patient. Interestingly, this PersUS integration into the ward rounds management effected a significant reduction of the time needed per patient from a mean of 8.9 minutes to 7.2 minutes. Patient referral to the echo lab for further examination was deemed necessary for 95 of 473 patients (20,1 %) in group A, only 12 of 534 patients (2,2 %) in group B.

Conclusion: PersUS reduced the contact times per patient in ward rounds and lowered the request for patient referral to an echo lab.