

Mammographic examination cycle time decreased after introducing a real-time pressure indicator in two independent radiology departments

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Summary

After introducing a pressure-based compression paddle in two hospitals, a significant improvement of the mammographic workflow (decreased examination cycle time (10% and 28% and improved compression pressure reproducibility) was observed; and is indicative for mammographic examination quality improvement.

Mammographic breast compression

In mammography, a generally accepted level of breast flattening in conventional compression is not defined, resulting in large variations between and within institutions [1,2]. Recent attempts for standardizing the compression procedure by introducing pressure-based compression using a paddle equipped with a real-time pressure indicator (see figure) were made and resulted in improved compression reproducibility [3,4].



What did we investigate

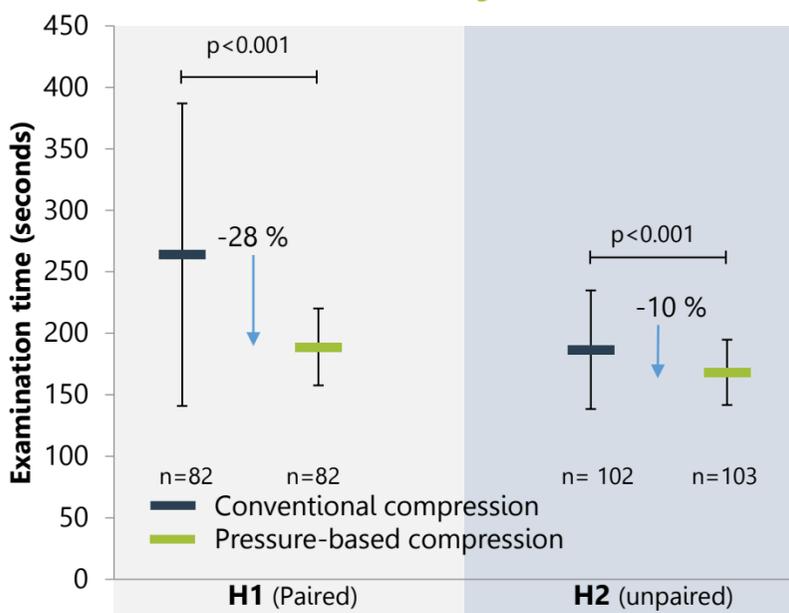
The aim of this study was to evaluate the impact on the mammographic examination cycle time after introducing a pressure-based paddle in two hospitals.

Methods

From two hospitals (H1, H2), mammographic compression pressure and examination cycle time (time between first and last mammogram, excluding retakes) were retrospectively obtained from DICOM information and per hospital evaluated for:

- A. Prior data, using conventional breast compression
 - B. Current data, after introducing pressure-based compression
- H1: paired data (same patients in set A and B)
H2: unpaired data (A and B obtained from a different patients)

Examination cycle time

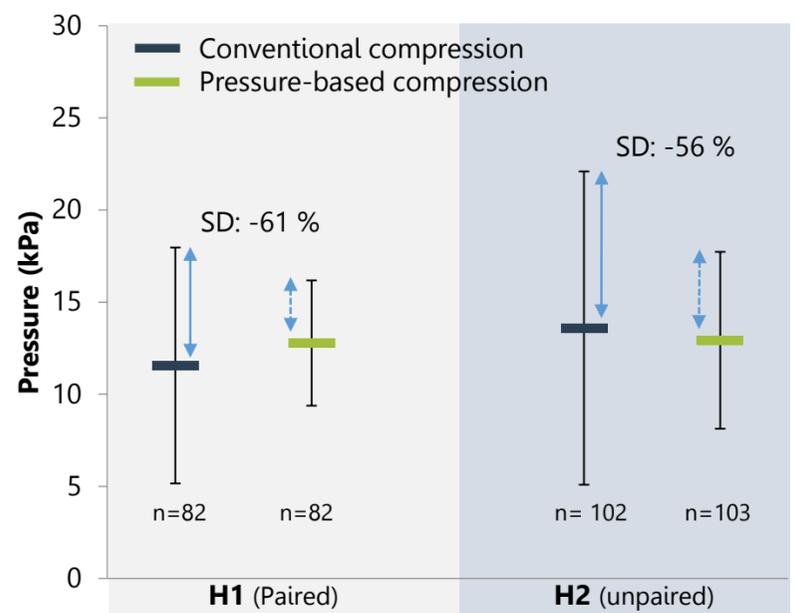


Hospital

In both hospitals, the examination cycle time and variability decreased significantly:

H1, prior: 264 ± 123 s; current: 189 ± 31 s.
H2, prior: 187 ± 48 s; current: 168 ± 27 s.
(mean ± standard deviation)

Pressure variation



Hospital

The compression pressure variability decreased significantly:

H1, prior: 11.6 ± 6.4 kPa; current: 12.8 ± 3.4 kPa.
H2, prior: 13.6 ± 8.5 kPa; current: 12.9 ± 4.8 kPa.
(mean ± standard deviation (SD))



References

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