Abstract:

To evaluate the additional effect of higher frequent linear probes than 12.5 MHz in color Doppler sonography and free hand sonoelastography of benign and malignant breast masses and to compare different color encodings in sonoelastography. From December 2012 to March 2013, 37 patients with benign or malignant breast masses were prospectively included in this study. All solid masses have been histologically proven. Two readers assessed sonoelastographic findings at 12.5 MHz vs. 17 MHz according to the tsukuba elasticity score and additionally different color encodings were compared. Results of Doppler sonography using a score of 0, 1 or 2, depending on the degree of perfusion, also were assessed at 12.5 MHz vs. 17 MHz. Among the 37 examined breast masses there were 10 cysts, 16 fibroadenomas and 11 carcinomas. Median participant age was 49.0 years. Use of color Doppler sonography enabled to distinguish cysts from solid breast masses (p< 0.001), without an improvement at 17 MHz. Additional sonoelastography significantly improved the specificity in solid breast masses (p< 0.001). No changes could be seen using different colors in sonoelastography. Combination of color Doppler sonography and sonoelastography can increase the accuracy in distinguishing benign from malignant breast masses. The use of linear probes with a higher frequency...
than 12.5 MHz does not show any benefit, neither in color Doppler sonography nor in sonoelastography.