TRUSTED PHYSICIAN IN
BREAST CANCER EXAMS

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Abstract

The breast radiologist is in the 'voice of reason' in the breast cancer diagnosis; he should to be careful neither to be conservative, nor too alarmist, in interpreting the initial breast cancer screening results because of there is a subtle balance between over and underdiagnosis. Radiologists' interpretations of screening mammograms improve during their first few years of practice and continue to improve throughout much of their careers. Additional residency training and targeted continuing medical education may help reduce the number of work-ups of benign lesions while maintaining high cancer detection rates

Keyword: breast cancer, radiologist, training

Introduction

If early diagnosed early, breast cancer now represents a highly curable disease, often small and node negative; women not only survive, but to also keep their female integrity [1]. Therefore, the breast radiologist is "THE" physician, often the first that encounters a breast cancer, the one that cares for patient and takes on their own responsibilities; he is the physician that goes with the patient along many years during breast clinical-instrumental evaluation. The breast radiologist is the first physician that discuss with the patient about breast abnormalities or suspicious , sometimes in disagreement with the patient that tries to find a justification to a breast lesion [2]. The breast radiologist has to 'self-tune' in terms of image findings and in terms of decision whether biopsy is needed or not [3]. The radiologist should be an experienced in communicating to a patient and her family that breast cancer is present, and knows how to respond to sorrow and anxieties [4].

Breast radiologists use imaging in its entire bandwidth. They need to be familiar with mammography, ultrasound [5] and with dynamic contrast-enhanced magnetic resonance imaging (DCE-MRI) [6] and with interventional radiology. Sometimes, breast diseases are also related to congenital or inherited syndromes and a genetic counseling could be useful to diagnose the primary disease which can manifest with breast symptoms [7,8]. The breast radiologist is in some ways the 'voice of reason' in the breast cancer treatment chain, and he needs to be careful neither to be conservative, nor too alarmist, in interpreting the initial breast cancer screening results because of there is a subtle balance between over and underdiagnosis. Radiologists' interpretations of screening mammograms improve during their first few years of practice and continue to improve throughout much of their careers. Additional residency training and targeted continuing medical education may help reduce the number of work-ups of benign lesions while maintaining high cancer detection rates [9]. Residency breast imaging training, dedicated post-residency courses, continuing medical education, annual interpretive volume could improve the radiologist learning curve and accuracy of breast exams with an earlier stage breast cancer detection with low rate of unnecessary biopsies that result in both patient anxiety and increased medical costs [10,11].

The most common reasons given for not considering a fellowship or interpretation of mammograms were that breast imaging was not an interesting field, that they feared lawsuits, and that it was too stressful [12]. Radiologists' performance continued to improve, though to a lesser extent, through 20 years of practice. The standardization of the procedure performed by a radiology resident or a radiographer as happens in the U.S., can cause many mistakes including an undiagnosed cancer . Therefore, the opportunity to make the instrumental analysis mechanical and schematic, is a useful investigative tool but only if made by an experienced radiologist. Considering as a whole medical investigations, experience is required for a correct diagnosis, as its automation leads to inevitable misdiagnosis, unless it is made by an expert.

The Computer Aided Detection (CAD) systems for breast cancers operate with a simple 'artificial intelligence' which compares measured parameters of the scanned breast tumor to a database of known diagnostic results for previously scanned tumors. Generally speaking, the computer aided detection system has proven to be useful as a 'second-opinion' or a training test, but is not suitable to provide the interpretation of the breast X-ray or other image. CAD systems are really not that much help to an experienced breast cancer radiologist, but can be quite beneficial for inexperienced radiologists, or perhaps in more remote settings where breast cancer may not be the primary area of expertise for the attending senologist.

Using computer aided detection systems has tended to result in a higher 'recall' rate for screening patients. Computer-suggested interpretations can often 'psych-out' a less experienced radiologist, resulting in many more biopsies than are really necessary. Incidentally, the rate of accurate radiologically detected breast cancer is usually around 91% or higher [13]. In conclusion, only an expert radiologist with a dedicated breast imaging training [14] can be accurate in breast cancer detection with benefit for women and for the health care system, with a reduction of unnecessary work-up and biopsies that result in both patient anxiety and increased medical costs [9]. Because the population grows, the average life is elongated, expecially for women, and the number of prevention exam will increase in future decades, we need qualified radiologists to interpret breast exams and to perform diagnostic work-ups. The training of a number of residents to interpret mammograms and to do breast ultrasonography will be a good challenge for radiologist and a precious opportunity for patients, minimizing extra-costs for biopsy or in-depth analysis.

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