

# Routine Breast Ultrasound in Young, Low-Risk Patients: the Problem of Unnecessary Tests

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Our modern practice of medicine is highly dependent on imaging, which enhances our diagnostic capability and accuracy. From the patient perspective, the value of imaging frequently surpasses that of the diagnostic abilities of their physician. The combination of history and physical examination, integrated with experience and wide knowledge of medical principles, is still the basis of medical decision-making in most doctor–patient interactions, but the tendency to rely on technology has lowered the trust patients have in the ability of their doctor to correctly diagnose and treat. Patients' demand for a supporting study, for example ultrasound confirmation of a clinically obvious inguinal hernia, has contributed to overuse of imaging, increased cost of medical care, and frequent detection of meaningless incidental findings, which lead to more studies, unnecessary interventions, and needless anxiety.

The use of imaging in breast cancer detection is well integrated into the screening programs and the workup of symptoms such as pain and self-palpated lumps. While the debate about routine screening and breast imaging has not ended [1], it has become clear that it is extremely difficult to grasp the true meaning of these screening exams. Concepts such as false-positive and false-negative, positive and negative predictive values, number needed to treat, outcome parameters, stage migration, and of course cost

effectiveness, are hardly understood well enough by many professionals, let alone the lay public.

The study by Kaminsky et al. in this issue of *Israel Medical Association Journal (IMAJ)* [2] addresses this delicate issue by examining the value of breast ultrasound exam in low-risk patients examined in a breast clinic by a dedicated breast surgeon. These young women under the age of 40 years of age did not have any significant risk factors for cancer (e.g., no personal or first-degree family history, no BRCA mutations), and presented for a routine exam without any specific breast complaints. About 7% of the patients, examined over a period of 3.5 years, underwent an ultrasound exam after their initial visit, resulting in a study group of 220 women. Out of the 68 patients with some clinical findings, 2 (2.9%) malignant findings were noted, one invasive and one in-situ, but in the remaining 152 patients without any physical evidence, no significant findings were detected in the ultrasound exam. The reason to add an ultrasound exam was defined in the study as “no reason,” which is a euphemism for “patient's demand” or “doctor's insecurity” and medico-legal worries.

It is not easy to avoid a screening test that is considered simple and safe and adds to the feeling of security among patients and doctors alike, who fear missing a lesion. The medical, as well as the legal, implications of a missed lesion are overwhelming. The price, both financially and medically, of unnecessary studies, and their resultant unnecessary interventions, tends to be ignored. Arguing with a patient who demands a confirmative study beyond the physical examination

is not a pleasant experience for doctors, as they may be considered as “serving the system,” arrogant, or caring more about cost of care than about the patient health. Such a negative interaction lowers the patient–doctor trust.

In the study by Kaminsky and colleagues, there are some methodological weaknesses, as it is a retrospective analysis of a rather limited group of patients. Some data is therefore missing, such as complete family history. But even if some of the patients were indeed at higher risk than estimated, still the lack of ultrasonic findings in the absence of physical findings only accentuates the message: the yield of non-indicated ultrasound for low risk patients with no physical findings is extremely low. Such a study can help doctors confront their demanding patients, providing evidence that unnecessary investigation can be avoided. Anxious patients can be comforted that their risk of cancer is negligible.

Kaminsky's article is a welcome addition to our struggle against the over-use of tests and investigations, and their resultant over-treatment [3].

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