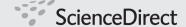
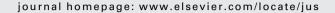


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The clinician's role in the diagnosis of breast disease

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KEYWORDS

Breast disease; Clinical examination; Clinical features of breast lesions. Abstract Until 20 or 30 years ago, the diagnosis and treatment of breast disease was managed exclusively by the surgeon. This situation has changed to some extent as a result of recent technological advances, and clinicians' contributions to the diagnostic work-up and/or treatment of these cases can begin at any time. If they are the first physician to see the patient after the examination and formulation of a diagnostic hypothesis, they will almost always have to order a panel of imaging/instrumental examinations that is appropriate for the type of lesion suspected, the patient's age, and other factors; if they intervene at the end of the diagnostic work-up, it will be their job to arrive at a conclusion based on all of the data collected. The clinical examination includes various steps - history taking and inspection and palpation of the breasts - each of which is essential and requires the use of appropriate methods and techniques. The diagnostic capacity of the examination will depend largely on the consistency of the breasts, but it is influenced even more strongly by the doctor—patient relationship. Physicians must know their patient well, listen to and understand what she is saying, explain their own findings and verify that the explanations have been understood, and they must be convincing. Clinicians must also be able to assess the results of imaging studies (rather than relying solely on the radiologist's report), and this requires interaction with other specialists. The days are over when a clinician or radiologist or sonographer worked alone, certain that his/her examination method was sufficient in itself: today, teamwork is essential. But this also means that each member of the team must be extremely competent in his/her own sector and be aware of the other team members' limitations and expectations. The clinical examination remains central to the process since it is the basis for selecting appropriate treatment.

Sommario Da quando si conosce la patologia mammaria la diagnosi e la terapia di tale patologia sono state a totale appannaggio del chirurgo, situazione che è proseguita fino a qualche decennio fa. Il recente progresso tecnologico ha modificato, in parte, questa situazione e il clinico può entrare nel percorso diagnostico o terapeutico in qualsiasi momento. Se è il primo coinvolto, dopo l'esame e dopo un'ipotesi diagnostica, dovrà, quasi sempre, orientarsi verso indagini strumentali in relazione al sospetto, all'età della paziente ecc., se è l'ultimo anello deve arrivare a una conclusione mettendo insieme tutte le informazioni. L'esame clinico è composto di varie fasi: anamnesi, ispezione, palpazione, ognuna essenziale. Ogni singola fase va affrontata con metodo e tecnica appropriata. La capacità diagnostica dell'esame clinico è influenzata dalla costituzione della mammella, ma ancor di più è condizionata da uno stretto rapporto tra paziente e medico che deve conoscere molto la paziente che gli sta davanti e che non solo deve "visitare",

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ma capire, spiegare, accertarsi che si abbia capito, convincere. È inoltre indispensabile che il clinico sia in grado di esaminare le indagini strumentali e non limitarsi a leggere i referti, quindi interagire con gli altri specialisti. L'epoca del clinico o del radiologo o dell'ecografista che lavora da solo credendo che il proprio esame sia sufficiente o sganciato da altri contesti è finita da tempo, tutti hanno bisogno di tutti. È però vero che ciascuno deve essere estremamente competente nel suo settore e deve conoscere i limiti e le aspettative di chi collabora in altre specialità, come rimane valida la regola che la clinica resta comunque il momento centrale, non fosse altro perché poi deve affrontare la terapia.

Introduction

Breast disease was first described in the Smith Papyrus, which dates back to 3000 BC. In 1882, Halsted standardized the mastectomy, the surgical procedure that bears his name, and it represented the treatment of choice for breast cancer until the late 1950s. From the beginning, the diagnosis and treatment of breast lesions were managed exclusively by the surgeon, and this was the rule until 20 or 30 years ago.

It is important to recall that mammography was developed in 1913. It was already being used in the 1950s, and by the 1970s it was widely employed in the United States. It arrived at the University of Milan Medical Center at the end of the 1980s.

Sonography followed a similar trend: It was introduced in 1953 by Wild and Reid, and the first World Congress of Ultrasonography was held in Vienna in 1969. The *Giornale Italiano di Ultrasonologia* was founded some 20 years later in 1990. In his well-known 1975 textbook, *Diseases of the Breast* [1], however, Haagensen dedicated 36 full pages to the clinical examination. The supplementary examinations cited included transillumination (1 page), mammography (4 pages), and xerography, thermography, and isotope studies (a few lines each), but there was no mention at all of sonography. In other words, until the final decades of the 20th century, diagnosis of breast disease remained primarily a responsibility of the surgeon.

The picture has changed markedly since then: thanks to major technological advances, our ability to detect and identify lesions within the breast has reached remarkable levels. The breast lesions we are looking for today are may be only a few millimeters in diameter, and in this setting technology has replaced clinical acumen. One wonders what role the clinician — in particular the surgeon — plays in current management of breast disease.

The picture that is emerging is one in which tiny subclinical lesions are being found thanks to clinical or screening mammography and subsequently characterized via sonography [2] and/or stereotactic techniques, which allow them to be removed when necessary. This phase is followed by treatment with targeted radiation therapy, radiofrequency ablation, or other methods, and completed with suitable drug therapy.

One might conclude that the surgeon has no place in this picture, that the clinician contributes little or nothing during the diagnostic phase. But the situation is actually far more complex.

First of all, screening programs do exist, but their geographical coverage is far from complete, and they

naturally focus on only certain age groups. Screening rates in Italy reach a maximum of 85% in the Lombardy region, but the national average is only 64%. In the second place, even in regions where screening is active and there is a high level of healthcare teaching, there are still numerous cases of advanced breast cancers. In the author's personal experience in screening programs at the ICP and later at the *Fondazione Ospedale Maggiore* of Milan (Tables 1 and 2), 16.7% of the tumors detected were >2 cm in diameter, 55.8% were more than 1 cm, and 1% were classified T4. Screening programs are highly conducive to early diagnosis, so in general clinical practice even higher percentages of tumors will be found after the initial stage. It is also important to recall that some tumors are manifested primarily or exclusively by clinical signs.

Therefore, the role of the surgical clinician is still fundamental: indeed, the surgeon is the focal point around which all other specialists revolve, although his/her role is clearly less important — or rather markedly different — than it was in the past.

For the sonographer, it is important to recall how clinicians approach the diagnosis of breast lesions and what they expect from diagnostic imaging procedures.

Clinical features of breast lesions

Haagensen, already cited above, is known for his comment, "If we were one day forced to give up all diagnostic methods

Table 1 Temporal variation in the size of breast carcinomas at the time of diagnosis (author's personal case series).



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