



MASTOLOGY

BREAST DISEASES

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EXCERPTA MEDICA

Locally advanced breast cancer diagnostics aspects

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Introduction

The mechanism working step by step up to the regional lymphonodulus, which was gathered in the technique of radical mastectomy published by Halsted in 1894, expressed the fact that for this author there was a locoregional evolution of the tumour in a direction that could be qualified of lineal, with subsequent haematogenic dissemination, after the overflowing of the ganglionic stations (1).

But the disseminative and mechanic lymphophilo pattern of Halsted loses ground because a number of patients with undamaged regional adenopathies evolve toward the metastatic dissemination (2). It is confirmed that a bigger local action is not followed by better results at long term, and it changes the reason of the chirurgical performance, and so to be defined as the practice of an exeresis at the proper time and in due manner.

Definition of the clam tumours

The locally advanced carcinoma of mamma (CLAM) is the way in which appears the cancer of mamma, being characterized by a significant enlargement of the mammary glands, with a tumour of variable size, which infiltrates the skin and the regional lymphatic ganglia, and with an evolution not necessarily fatal, as the survivals after five years are up to the 30%.

It has to do with a local or regional ample range of the neoplasia, sometimes as a consequence of a quick development of the same with ganglionic dissemination (N1-2), or on the contrary of a great local progression of the mammary tumour by a long and slow evolution since its diagnostic (T4).

Historically, and although this type of tumours were technically able to be dried, the patients were lost due to the dissemination at a distance and many times being the tumour present. With the result that the therapeutic planning nowadays includes usually the systemic attack as from the beginning, mostly when, after the examination of the patient and of the biopsy specimen, it has been determined the possibility of response to such treatments.

Its definition is subject to various particularities. For some doctors it is a question of patients not susceptible of a conservative treatment, for others they are the non-tributary ones of surgical resection at the beginning, and for most of them they correspond to stadium III, if excluded the inflammatory carcinoma.

The concretion of this stadium has had several variations since the UICC has

published the TNM classification. Previously Haagensen and Stout described the serious signs of mammary cancer by elucidating some judgments of inoperability which are still in force, such as the oedema of the mamma skin, the ulceration, the fixation of the tumour to the thoracic wall, and the massive affectation of axillary ganglia, with fixation of the same to the superlying skin or to other axillary structures. With the above data the classification of the university of Columbia has been prepared, where they labelled the CLAM in stadium C (4,5).

The UICC has redefined Stadium III in 1987, by introducing several variations, which had already been proposed in some publications (6). The big tumour (T3), without affected ganglia, has been segregated and included in stadium II, in view of its better prognostic, and also to contrast it with those tumours which, having a smaller size, had already disseminated the armpit. It had also been estimated that the N3 had to be assigned to the lymphonodulus of the inner mammary, and the old N3, which was the ganglionic supraclavicular affectation is classified as metastasic. So, nowadays, they consider as CLAM tumours any Carcinoma that infiltrates the skin and or the thoracic wall, with ganglionic invasion in any degree, either being axillary or pertaining to the group of the inner mammary (7). (Table 1)

The CLAM is composed of a heterogeneous group of tumours. Some of them are of a large size, with local infiltration and scarce sytemic aggressiveness, with no ganglionic affectation, and others are smaller tumours that grow quickly and have little local affectation, but with a serious dissemination towards the ganglia. This variety makes the studies of its evolutional process to be complex, as a great number of publications effect the global analysis of all the tumours in this stadium, and even in some cases they include the inflammatory carcinoma. (T4d).

This kind of tumourous presentation, the inflammatory carcinoma, which are also CLAM, must be segregated due to its special characteristics. It has to do with non-concret tumours from the exploratory and radiological point of view, which grow quickly, with flush, skin oedema, local heat, with anatomopathological affectation of the dermic lymphatics, and very bad prognostic. (3,7,8).

This very histological fact is basic for the appointment to the group, and it must be differentiated from the lymphatic peritumourous infiltrations of the tumours that ulcerate the skin or from the so called inflammatory hidden carcinoma. These also of very bad prognostic are the kind of cancer which, having the lymphangitital infiltration of the skin, lack of the clinical inflammatory signs (10).

Putting aside these clinico-pathological variantes, one gradation for a better interpretation of the results is the division in substadiums like III A-B, which for some authors is also an indicative of the surgical dessication at start (11).

Table 1
TNM. Classification. Breast tumours

III A	III B	
T0 N2	T4	N0
T1 N2	T4	N1
T2 N2	T4	N2
T3 N1-2	T0-1-2-3-4 N3	

The prevailing of the CLAM is very changeable, but in our medium it presupposes between 15-20% of the tumours. However, these figures are different according to the place the patients come from; in fact, the percentage is smaller if they come from a centre with precocious diagnosis or from a social welfare ambit (Table 2). Also the type of hospital, if public or private, shows important differences in the sick people being studied, having in mind their cultural and social levels. In our experience 48% of the presentations CLAM happens in women over 60 years old. In this subgroup of patients we have detected tumours of slow evolution, of moderated biological aggressiveness, and low fractions of growth, which give place to a scarce local response to the medical treatments.

Tumourous size

An important fact to be considered is the valuation of the tumour size (T). When it is a matter of lesions bigger than 5 cm its evaluation is not difficult at all, but there exists some difficulty in identifying the T4.

It is really a tumour that, by affecting the skin from a conceptual point of view, individualized, can embrace a range going from a small nodule, which produces a scarce cutaneous retraction, up to the big neoplastic ulcer, sometimes with the metastasis in the very skin of the mamma (T4 b). There are also included the ones infiltrating the thoracic wall (T4 a), and the combination of the two forms (T4c)

The diversity of the presentations gives place to the different variations in the initial local treatment and they have also repercussion on the SG, which after 5 years is of 54% in the whole of the series, in front of the 85% of the ones which could be denominated as false T4. (12).

Lymphonodal affectation

The corresponding axillary invasion is significant (N2-3), and this fact conditions absolutely the survival, which is actually of 20-30% after 5 years. In view of the histological report it is difficult the adscription to a definite group (N1-N2).

The capsular infiltration, overflowing it, (pN1biii), with more than 50% of the ganglia being affected, is not easily differentiated from the N2, mostly if this is not very evident surgically speaking. In fact some groups consider the capsular infiltration as N2.

The difficulty is much bigger if the capsular incision occurs only in one ganglion. On the other side, these gradations in the intensity of the affectation of the lymphatic ganglia, still seem to drag along mechanized concepts with regard to the dissemination of the tumourous cells. Really, under the protection of the biological concepts with immunological support about the meaning of the ganglionic tumourous infiltration, the size of the metastasis of the affected ganglion does not seem important, if the tumour infiltrates the capsule at only one point, or if it infiltrates it totally, or if it breaks it, or if it gets in contact with other ganglia; in any case, if the surgical axillary resection was complete. The complexity of the

Table 2

Results of diagnosis cancer center. 1993. Dr. R. maraña. Valencia. Spanish cancer association

Size	No	%
Invasive	15	5.7
T < 2CMS(T1)	92	35.3
T 2-5CMS(T2)	115	44.1
T 3-4	39	14.9
Total	261	100

adscription of the female patients for its ganglionic stratification gives occasion for interpretations by the working groups, that have a repercussion on the results being published. At all events, these data, which have on one side a value of prognostication and on the other side a therapeutic repercussion, and consisting of the necessity of systemic treatment (13).

Valuation of the N3

Ganglionic stages being considered as N3, such as the supraclaviculars, are nowadays classified as metastatic, and the internal mammaries are valued as N3. The ganglia of this chain are placed by the intercostal cartilages and muscles. Their size is from 2 to 5 cm and their number varies between 3 and 9, and they are more frequent in the first intercostal spaces.

The lymphatic current they receive is above all the one coming from the internal quadrants of the mamma, although some studies effected by lymphoscintigraphy indicate that qualitatively as well as quantitatively any quadrant can send lymphatic flux to the same. By the way, there are few possibilities for the lymph to cross the midline in spite of the frequent existence of anastomotic vias between the lymphatic nets on both sides of the body (14). But these descriptions of lymphatic kinetic are not in harmony with the frequency the said chain is affected in the totality of the mammary carcinomas, having in mind even the cases in which the axillary ganglia are infiltrated and the tumour is medial.

The imagenological identification of the same is very difficult, as there is not any diagnostic procedure reliable enough for its identification. Several publications have been made for its detection by means of lymphoscintigraphy, echography, computerized tomography and magnetic resonance. According to some authors, with the first technique, a high specificity is obtained, but other studies indicate for the echography a positivism of 84 % after the biopsia of the suspicious nodules, which are those of more than 6 mm of size.(15)

We have studied with magnetic resonance a group of 19 patients between 38 and 77 years, all of them with tumours with internal quadrants, T 1-2-3, and with axillary infiltration in 9 cases. It has been imposible in any case to detect in the

Table 3

Results of regional lymphonide. Valoracion with magnetic resonance tomography on 19 patients with internal quadrants breast cancer.

Size	PTNM			
	No	N1	N2	N3
T1	6	2	1	0
T2	4	1	1	0
T3	0	2	2	0

spectrum the presence of adenopathies in the internal mammary, although the affected axilaries were made evident, in 8 out of the 9 cases in which they were mestastatized. (Table III)

In any case, with the exception of the scintigraphy which evaluates eventual possitiveness to tumourous infiltration as per the repletion defects, the rest of the techniques consider an eventual macroscopic affectation of the lymphonodules due to their size, mostly the ones situated on the second, third and fourth intercostal spaces, although not being able to determinate with accuracy whether there is or not a tumourous infiltration (16,17,18,19,20)

There are difficulties in obtaining a ganglionic sample, as a surgical routine, to confirm its infiltration. For this reason, its understanding as far as the stadium is concerned, still motivates studies to determine which non-invasive technique is the best for its identification.

References

1. Halsted WS. The results for operations for the cure of cancer of the breast performed at the Jhon Hopkins Hospital from June to January 1894. *Ann Surg* 1894; 20: 497-555
2. Fisher B. The revolution in breast cancer: science or anecdotalism?. *Wolrd J Surg* 1985; 9: 655-666.
3. Hortobadgyi GN, Blumenschein GR, Spanos W, et al. Multimodal treatment of locoregionally advanced breast cancer. *Cancer* 1983; 51: 763-768.
4. Haaegensen CD. *Enfermedad de la mama*. Edit. Beta SRL. Buenos Aires. 1972;685-691
5. *Manual for Satging of Cancer*. Third Edition. American Joint Commitee on Cancer. J.B. Lippincott. Co. 1988.
6. Garcia Vilanova A. Sistema TNM 1978 en cáncer de mama: propuesta de su modificación. *Rev Esp Oncología* 1985; 32:95-108
7. UICC. *TNM atlas Illustrated Guide for the TNM/pTNM classification of malignant tumours*. Third Edition. Springer-Verlag. 1989.
8. Ellis DL, Teitelbaum SL. Inflammatory carcinoma of the breast: A pathologic definition. *Cancer* 1974; 33:1045-1047.

9. Lucas FV, Perez- Mesa C. Inflammatory carcinoma of the breast. *Cancer* 1978;41:1595-1605.
10. Salzstein SI. Clinically occult inflammatory of the breast. *Cancer* 1974; 34:382-388
11. De Lena M, Zuccali R, Vimagoti G et al. Combined chemotherapy-radiotherapy approach in locally advanced (T3b-4) breast cancer. *Cancer Chemother. Pharmacol.* 1978; 1:53-59.
12. Vazquez Albaladejo C. Conservacion o reconstruccion en el cancer de mama en estadios iniciales. En: *Cancer de mama. Avances en diagnostico y tratamiento.* Diaz Faes (ed).Leon.1990;183-202.
13. Bonadonna G, Valagussa P, Rossi A, et al. Ten-years experience with CMF-based adjuvant chemotherapy in resectable breast cancer. *Breast Cancer Res. Treat.*1985.5:95-115.
14. Vendrell E. Linfogammagrafia de la mama. Tesis Doctoral. Universidad de Barcelona. Secretariado de Publicaciones. Romagraf. pp 1-33.1971.
15. Scataridge JC, Hamper Um, Stheth S et al. Paraesternal sonography of the internal mammary vessels: Technique, normal anatomy and lymphoadenopathy. *Radiology* 1989; 172: 453-457.
16. Noguchi M, Michigishi T, Nakajima K, et al. The diagnosis of internal mammary node metastases of breast cancer. *Int Surg* 1993; 7:171-175.
17. Toruglu HT, Janjan NA, Thorsen MK, et al. Imaging of regional spread of breast cancer by internal mammary. *Clin Nucl Med* 1992; 17:482-484.
18. Taylor JL,Taylor DN, Lowry C, et al. Radioinmunoscintigraphy of metastasis breast carcinoma. *Eur J Surg Oncol* 1992; 18-57-63.
19. Linden A, Reusch K, Smolarz K. Retroesternal lymph node metastases in breast cancer: Lymphoscintigraphy and magnetic resonance tomography. *Nuclearmedizin* 1991; 30:279-282.
20. Scott WW, Fishman EK. Detection of internal mammary limph node enlargement: comparison of CT and conventional roentgenograms. *Clin Imagin* 1991;15:268-272.