

Occult Axillary Lymph Node Metastases Discovered by Serial Section in Node Negative Breast Cancer

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Abstract

Serial sectioning of the axillary lymph nodes from lymph node negative breast cancer patients is presented. All patients were admitted between 1997-1998 and underwent mastectomy and axillary node dissection. The histological examination revealed micrometastases in 5 (10%) of 50 breast cancer subjects. The detection of these micrometastases in lymph nodes may identify a high-risk node-negative population. The time and money that was spent to detect the micro-metastases was too high to perform it in every case. The clinician should be aware of the occult micrometastases in node-negative cases.

Key word : Occult Metastases, Breast Cancer, Axillary Lymph Node

There have been several reports(1-3) of a high incidence of occult nodal micrometastases on examination, usually on further sectioning of the histological material. The presence of occult micro-metastases remains statistically significant(4). It has long been known that axillary lymph node metastases in operable breast cancer are associated with poorer prognosis(3,5). This study was performed in order to detect the presence of micrometastases in node negative cases of breast cancer patients.

MATERIAL AND METHOD

Between 1997 and 1998, 50 cases of modified radical mastectomy which were node negative were selected. All cases were operated on in the

National Cancer Institute. All paraffin blocks containing lymph nodes from 50 cases reported as node-negative were serially sectioned at 20 levels, with 3-micron section being cut at each level. The slides were stained with Hematoxylin-Eosin. One pathologist examined the 937 lymph nodes from 169 slides. The primary tumor of each case was examined before proceeding to the serial section specimens.

RESULTS

The 50 cases of node-negative breast cancer patients revealed 5 cases (10%) of occult micro-metastases (Fig. 1). The 937 lymph nodes that were examined revealed 5 nodes (0.53%) with occult

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micrometastases. All of the positive cases were diagnosed as invasive ductal carcinoma. One lymph node was found positive in each case. The occult micrometastases were found in level 2 of case 21, level 14 of case 28, level 12 of case 36, level 1 of case 39 and level 1 of case 47. (Table 1)

DISCUSSION

The proportion of patients in this study with occult lymph node micrometastases (10%) is quite low compared to other reports (Table 2) perhaps because fewer sections were examined than in the other studies. This study found only one affected node compared to others that found more than one node(3,4).

The presence of occult lymph node micrometastases was not associated with age, histologic type, grade, size of tumor and number of lymph node resected(4). The serial section with H-E stain in this report gave a similar result to the report that stained both H-E and Immunohistochemical stain(4).

The serial sectioning of multiple axillary lymph nodes is time consuming and expensive. This

should be confirmed to be of prognostic value and therapeutic importance before being recommended for routine use. Clinicians should keep in mind that a node negative breast cancer patient may have the risk of 9-33 per cent occult axillary lymph node micrometastases.

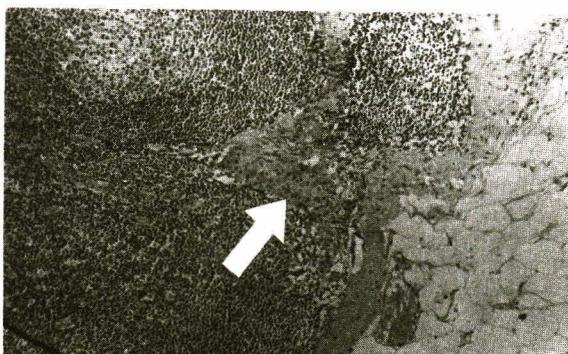


Fig. 1. Micrometastatic tumor cells were noted in the lymph node from case number 21.

Table 1. Clinicopathological data of patients with occult node metastases.

Case number	Diagnosis	Age (year)	Number of lymph node	Node positive	Level	Tumor size (cm.)
21	Invasive ductal carcinoma	41	22	1	2	2.8 x 3.2 x 3.5
28	Invasive ductal carcinoma	45	14	1	14	1.7 x 1.8 x 2.5
36	Invasive ductal carcinoma	39	21	1	12	2 x 2.5 x 2.5
39	Invasive ductal carcinoma	35	32	1	1	2.5 x 3 x 3.5
47	Invasive ductal carcinoma	62	28	1	1	1.5 x 1.5 x 2

Table 2. Reported frequency of occult axillary node micrometastases.

Author	Number of patient	Number of patient with occult node metastases	Occult metastases (%)
Saphir & Amromin(4)	30	11	33
Pickren(4)	51	11	22
Fisher et al(6)	78	19	24
Rosen et al(7)	28	9	32
Wilkinson et al(18)	525	89	17
Friedman et al(3)	456	43	9
Apostolikas et al(9)	50	7	14
Wells et al(10)	45	7	16
Trojani et al(11,12)	150	21	14
Bussolati et al(13)	50	12	24
International (Ludwig) Breast Cancer Group(4)	920	83	9
Present series	50	5	10

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การพนเซลล์มะเร็งที่ซ่อนเร้นในต่อมน้ำเหลืองบริเวณรักแร้ของผู้ป่วยมะเร็งเต้านมที่รายงานว่าต่อมน้ำเหลืองที่รายงานว่าต่อมน้ำเหลืองปลดปล่อยเซลล์มะเร็งโดยการตัดซอยต่อมน้ำเหลือง

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การเสนอผลการวินิจฉัยการตัดซอยต่อมน้ำเหลืองบริเวณรักแร้ของผู้ป่วยมะเร็งเต้านมที่รายงานว่าต่อมน้ำเหลืองปลดปล่อยเซลล์มะเร็ง ผู้ป่วยทั้งหมดได้รับการผ่าตัดที่ส่วนอกบันมะเร็งแห่งชาติระหว่างปี พ.ศ.2540-2541 การตรวจทางพยาธิวิทยาพบ micrometastases 5 ราย (10%) จากจำนวนผู้ป่วย 50 ราย การที่พบว่ามี micrometastases นี้แสดงถึงความเสี่ยงที่สูงขึ้นของผู้ป่วยมะเร็งที่รายงานว่าต่อมน้ำเหลืองบริเวณรักแร้ปลดปล่อยเซลล์มะเร็ง การค้นหา micrometastases นี้ใช้เวลาและเงินเป็นจำนวนมากเกินกว่าที่จะทำในผู้ป่วยมะเร็งเต้านมทุกราย ดังนั้นแพทย์ผู้รักษาพิจารณาหักว่าผู้ป่วยมะเร็งเต้านมที่รายงานว่าต่อมน้ำเหลืองปลดปล่อยเซลล์มะเร็งอาจพบ micrometastases ได้

คำสำคัญ : การแพร่กระจายซ่อนเร้น, มะเร็งเต้านม, ต่อมน้ำเหลืองบริเวณรักแร้

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