

# CAF combination chemotherapy in breast cancer patients with liver metastasis

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## Summary:

**Background:** management modalities for liver metastasis from primary breast cancer are evolving steadily but systemic chemotherapy remains the mainstay of treatment.

**Patients and methods:** 30 patients with breast carcinoma and liver metastasis managed at (Baghdad teaching hospital) during the period from Jan. 2005 to Jan. 2007.

**Results:** 16 patients showed response to chemotherapy. 20% complete response was found and 33% showed partial response 57% went into progressive disease. The duration of response lasted for less than six months in 4 patients and more than six months in two patients.

**Conclusion:** chemotherapy remains the mainstay of treatment of liver metastasis but new modalities of treatment add much for chemotherapy if used in combination.

**Key words:** breast cancer, liver metastasis, chemotherapy

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## Introduction:

Liver is an uncommon site for isolated solitary breast cancer metastasis, reported to occur in approximately 3-9% of breast cancer patients (1)

Liver metastasis from breast cancer is usually seen in about 20% of breast cancer patients either at the time of presentation or during the course of the disease (2). It is usually associated with a poor prognosis (median survival < 6 months) (2, 3) and only in exceptional cases do these patients survive more than 2 years when given chemotherapy or supportive care alone (3). Usually these patients die from liver failure or due to disseminated disease (3). This work studies a group of patients with metastasis from primary breast cancer to the liver and their response to chemotherapy.

## Patients and methods:

This study involved 30 female patients with breast cancer and liver metastasis who were treated in the oncology unit of Baghdad teaching hospital during the period from (Jan. 2005 to Jan. 2007). The median age was (50 years) and the majority of patients (17 patient- 56.7%) were in the age group 40-50, while those in the age group 30-40 constituted about 20% and those in the age group 50-60 were about 23.3%. All the patients were managed on outpatient basis. For every patient a full history and physical examination was performed in addition to liver function tests, chest x-ray, and ultra sound study of the abdomen. Computerized tomography was also done for few patients. All patients were treated by combination chemotherapy in the form of CAF, which was given every 3 weeks for six courses. The course consisted of Cyclophosphamide 600mg/m<sup>2</sup> iv +

Adriamycin 60mg/m<sup>2</sup> iv + 5Fluorouracil 600mg/m<sup>2</sup> iv and all are given on the same day. The patients were followed for variable periods but no one of them skipped the follow. Complete response means complete disappearance of the disease proved by ultrasound of the abdomen. Partial response means, less than 90% reduction in the size of liver metastasis proved by ultrasound of the abdomen. No response means, no change in the size of the tumor proved by ultrasound of the abdomen.

## Results:

The commonest age affected in the group studied was between 40 and 50 in 60% of the cases. And the commonest histological type was ductal carcinoma, which was seen in 25 patients (84%) followed by lobular carcinoma in 3 patients (9%) and medullary carcinoma was in 2 patients (7%). Clinically 24 patients (80%) presented with palpable liver while in 6 patients (20%) the liver was not palpable. Liver function tests were normal in 18 patients (60%), while in 12 patients (40%) liver function tests were abnormal. As it is shown in table 1.

**Table 1: Demographic Data of Patients**

Age groups	30-40 years	20%
	41-50	60%
	51-60	20%
Histological types Of primary breast Cancer	Ductal carcinoma	84%
	Lobular carcinoma	9%
	Medullary carcinoma	7%
Palpable Liver	24 Patients	80%
Not Palpable	6 Patients	20%
Normal L.F.T.	18 Patients	60%
Abnormal L.F.T.	12 Patients	40%

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Two patients (7%) presented with a solitary hepatic metastasis as compared to 28 patients (93%) with multiple hepatic metastases. Fourteen patients (48%) presented with hepatic metastasis at the time of presentation while 16 patients developed hepatic metastasis during the course of the disease. As shown in table 2 .

**Table 2: Hepatic metastasis**

Solitary	2 patients	7%
Multiple	28 patients	91%
At presentation	14 patients	48%
During Disease	16 patients	52%

Regarding the response of hepatic metastasis to chemotherapy only 6 patients (20%) showed complete response proved by ultrasound of abdomen which showed complete disappearance of metastasis from the liver, and 10 patients (33%) developed partial response to chemotherapy. In 14 patients (57%) there was no response and the disease followed a progressive course. As it is shown in the table (3):

**Table 3**

Response rate	Complete response	20%
	Partial response	33%
	Progressive disease	57%

The duration of complete response was less than 6 months in 4 patients and more than 6 months in only 2 patients .The cause of death was liver failure in 8 patients or disseminated disease in 6 patients.

#### Discussion:

Although isolated liver metastasis is uncommon, more than 50% of breast cancer patients will develop liver metastasis at some point during the natural course of the disease (4). The presence of liver metastasis implies a poor prognosis, signifying wide dissemination of disease and median survival times ranging from 4-12 months (5). Usually, therapy of metastatic breast cancer consists of chemotherapy or endocrine therapy because even in the cases of isolated metastasis in one organ, diffuse tumor cell dissemination exists. Recent advances in local therapy such as surgical resection and radiofrequency ablation combined with effective systemic treatment have been applied in the management of patients with advanced breast cancer (5, 6) In this series the results of treatment of 30 patients with isolated metastatic breast cancer to the liver by systemic chemotherapy were reviewed, about half of them (14 patients) presented with liver metastasis at the time of presentation. Systemic cytotoxic chemotherapy can result in regression of tumor lesions and decrease in symptoms (7). In this series complete remission of liver metastatic lesions were achieved in 20% of patients and partial response in 33%, but this response was of short duration and did not last more than six months except for two patients ,as compared to transcatheter

arterial chemoembolization ( Hepatic Artery Chemoembolization ) used by LiXP et al (7) which produced a response rate of 35.7% and a one ,two, three year survival rates of 63%,30% and 13% , and in other work performed by (8)the response rate was 81% and the overall survival was 12.5 months which was far much better than using chemotherapy alone as in our study . The type of chemotherapy used definitely affects the prognosis , as we used in this study the classical chemotherapy ( CAF Combination Chemotherapy ) while most centers are using more recent protocols of anthracycline and /or taxane that gave objective response in 34% of patients in the series revealed by Pentheroudakis G et al(2). C.T. Sofocleous (9) described the results of radiofrequency ablation in the management of metastasis from breast cancer in patients with less than three metastatic liver lesions and a combined diameter of less than 12 cm with no evidence of extrahepatic metastasis, and he presented a complete response in 13 lesions out of 14 lesions in his twelve patients with median disease- free interval of 47 months . Comparing the results of our study with that of using radioablation it seems that radioablation is a safe procedure and beneficial treatment option when added to systemic treatment for the management of selected patients with liver metastasis from breast cancer.The use of surgical resection of hepatic metastasis in combination with high dose neoadjuvant chemotherapy resulted in actuarial 5-year survival of 22% (3) and seven out of 17 patients remained alive for up to 12 years. In our study we did not perform liver resection due to deficiency in the theatres during the study period. Including deficiency in the fully equipped theatre for hepatic surgery, good anesthesia, post operative care, and well trained surgeon for hepatic resection .There are many factors which may affect the response to the various types of treatment of metastatic lesion of breast cancer to the liver but they were not mentioned in this study. In conclusion , although chemotherapy is still the back bone of any treatment modality in liver metastasis from breast cancer but new modalities of treatment combined with different types of chemotherapy proved to add much in terms of survival and disease free periods. We recommend a more comprehensive study and a combined work with the surgeons to enhance trials for liver resections and also we recommend using new modalities for treatment of liver metastasis.

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