RETROSPECTIVE STUDY OF ABDOMINOPELVIC COMPUTED TOMOGRAPHIC FINDINGS IN ADVANCED BREAST CANCER PATIENTS ATTENDING SPECIALIZED ONCOLOGY CENTERS IN ALEXANDRIA

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Introduction

Although the recognition and treatment of breast cancer metastases to sites such as bone, liver, lungs, and brain are well-documented, abdominopelvic metastases of breast cancer represent a clinical challenge. Abdominopelvic Computed Tomography for breast cancer patients has been used for disease staging to detect denovo metastasis and during disease follow up to detect relapsed metastasis. Yet, in practice, its role was limited to detecting common sites for secondaries which are bone and typical hepatic metastasis. However, there are other unusual sites and patterns that are equally important and often overlooked which results in delay in the proper diagnosis. These include spleen, pseudocirrhosis of the liver, retroperitoneal involvement, soft tissues and transcoelomic spread sites. Other abdominopelvic radiographic findings are related to chemotherapy and hormonal therapy. These include: Steatohepatosis, neutropenic enterocolitis, vascular thrombotic events and uterine abnormalities. Detecting any of these unusual sites as well as any of the chemotherapy and hormonal therapy induced changes results in tailoring the treatment strategy in breast cancer patients.

Aim of the work

To examine the utility of contrast-enhanced CT for detecting abdominopelvic radiological findings in advanced breast cancer patients.

Patients

Target population and research setting:

The current study was carried out on a purposive sample of biopsy-proven breast cancer patients, who were referred to multiple institutions for staging purpose and/or on annual follow up. These namely: the Alexandria University hospitals, Medical Research Institute and private sector of Radio-diagnosis departments. **Inclusion criteria:**

Biopsy proven primary breast cancer female patients.

For whom studies of abdominopelvic CECT scans are available for review.

Positive findings on abdominopelvic CECT scans.**Exclusion criteria:**

Patients with primary non breast cancer were excluded from the study, Incomplete health records or absent DICOM images.

Methods

Study design: Descriptive study design was selected.

Data collection method and tool: Retrospective chart reviewing was conducted between August 2020 and January 2021 for patients with advanced breast cancer who underwent CT during 36-month period (January 2018 to December 2020). Interpretation of CT images included: non contrast images (soft tissue window)

post-contrast images (soft tissue window)bone window non contrast images

Results

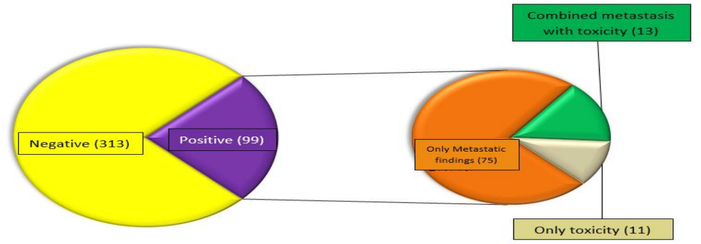

Fig (1): Distribution of the studied breast cancer patients

Table(1): Frequency of organs involved in abdominal metastasis in breast cancer

Frequency of organs involved in abdominal metastasis in breast cancer	No.	%
Bone	52	59.1
Liver	47	53.4
Peritoneum	19	21.6
Abdominal Lymph nodes	12	13.6
Adrenal gland	11	12.5
Ovary	7	7.9
Abdominal Gastrointestinal tract	4	4.5
Subcutaneous soft tissue	4	4.5
Pancreas	3	3.4
Spleen	2	2.3
Kidney	1	1.1

Table (2): Frequency of toxic changes related to systemic therapy of breast cancer

Frequency of toxic changes related to systemic therapy of breast cancer	No.	%
Fatty liver	14	14.1
Uterine abnormalities	8	8.0
Hepatic pseudo-cirrhosis	5	5.1
Neutropenic enteritis	1	1.0

Conclusion

Close discussion with clinicians and awareness of these imaging pitfalls will enable the radiologist to assess patients with a history of breast cancer with a high index of suspicion. Evaluating patients with metastatic breast cancer in the abdomen is challenging. Due to its infiltrative pattern of spread, imaging findings could be subtle and easily missed until the disease is extensive.The radiologist plays an integral role in examining patients with breast cancer, not only in the detection of the primary lesion but also in the identification of metastatic disease and evaluation of treatment response. With the advent of multiple chemotherapeutic and hormonal agents for the treatment of patients with metastatic breast carcinoma, recognition of metastatic disease and its potential complications has become increasingly important. Moreover, as the number of breast cancer survivors increases, the appearance of unusual metastatic patterns is increasing.