

Atlas of Breast Lesions on Chest Computed Tomography

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 Springer

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*To my husband, Keivan, and my
daughter, Rosha*

Preface

Chest CT is typically used for diagnosing lung, mediastinum, pleura, and chest wall conditions, but it can also detect breast abnormalities, including cancer. With the increased use of chest CT, incidental breast lesions are increasingly being detected. In some cases, chest CT may be the first imaging modality to demonstrate breast cancer.

Chest CT is not the preferred method for characterizing breast lesions. However, radiologists frequently encounter breast lesions in chest CT scans, particularly with high-quality images from newer CT scan machines. Unlike mammography, ultrasound, and MRI, there is no standardized set of descriptors for CT scans in the Breast Imaging Reporting and Data System.

While chest CT scans offer advantages such as comfort and no need for compression, there are concerns about overuse and radiation risks associated with CT scans in general.

As CT technology evolves, there is an opportunity to refine protocols for using chest CT scans in breast cancer screening. This includes optimizing radiation doses and improving radiologist training to enhance detection rates for incidental cancers.

This book aims to illustrate various breast lesions observed in chest CT scans, showcasing both typical and atypical examples in each section. We have discussed some of the most critical types of breast lesions across five chapters. The images included have been carefully selected, and we hope this atlas serves as a valuable resource for radiology residents, fellows, general radiologists, radiologists specializing in thoracic imaging, and clinicians. Ultimately, this resource may contribute to the earlier detection of breast cancer and improve patients' breast health.

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Abbreviations

CHF	Congestive heart failure
CT	Computed tomography
DIEP flap	Deep Inferior Epigastric Perforator flap
3D	Three-dimensional
ER	Estrogen
GATA3	GATA binding protein 3
HU	Hansfield number
Her2	Human Epidermal Growth Factor Receptor 2
IBC	Inflammatory breast cancer
MIP	Maximum Intensity Projection
PASH	Pseudoangiomatous stromal hyperplasia
PR	Progesterone
RECIST	Response Evaluation Criteria in Solid Tumors
SCC	Squamous cell carcinoma
TRAM flap	Transverse rectus abdominis muscle flap
TTF1 receptor	Thyroid Transcription Factor-1
US	ultrasound