

Chapter 7

Lung Cancer Detection With AIoT Systems: A Revolutionary Approach

Usha Gopal

 <https://orcid.org/0000-0002-2947-9292>

SRM Institute of Science and Technology, India

Vinoth Nas

SRM Institute of Science and Technology, India

Santosh Reddy Addula

 <https://orcid.org/0009-0000-3286-8224>

University of the Cumberland, USA

R. Thamizhamuthu

SRM Institute of Science and Technology, India

A. Anbarasi

SRM Institute of Science and Technology, India

ABSTRACT

One of the main reasons people die from cancer around the world is lung cancer. For successful treatment and higher survival rates, early detection is very important. X-rays, CT scans, PET scans, and tissue biopsies are all examples of traditional ways to diagnose a problem. While these methods are effective, they are often invasive, time-consuming, and expensive. The advent of artificial intelligence of things (AIoT) promises to revolutionize lung cancer detection by combining the power of artificial intelligence (AI) with the internet of things (IoT). Hence, this chapter gives overall knowledge in various revolutionary approaches, applications of AIoT, challenges

DOI: 10.4018/979-8-3693-7703-1.ch007

and limitations of AIoT, case studies in AIoT for cancer detection. Then this chapter concludes with future directions where the genomic data techniques, real-time AI processing, enhanced sensor technology, and collaborative healthcare ecosystems need to be facilitated with seamless data exchange techniques. Finally, this chapter concludes with the transformative approach.

INTRODUCTION

Before understanding the components of lung cancer first we will first understand the types, stages and risk factors of lung cancer.

Figure 1. Types of lung cancer

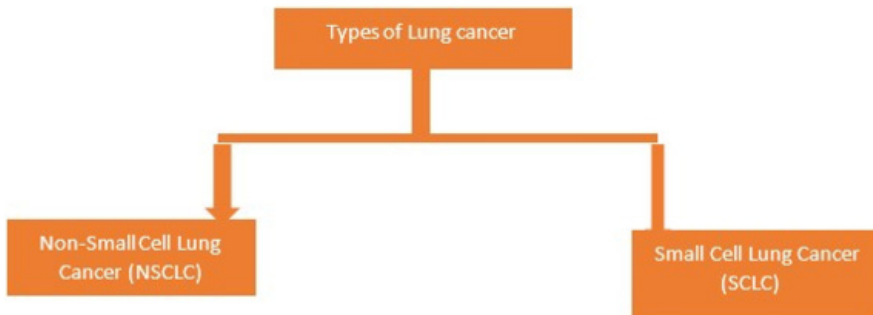


Fig 1. Types of Lung Cancer

Non-Small Cell Lung Cancer (NSCLC)

In this type Adenocarcinoma is the basic common type which are found in outer parts of the lungs. Squamous Cell Carcinoma is caused (Ahmad, Awais, & Anjum, 2020) due to smoking which are found in the central part of the lungs. The next type is Large cell Carcinoma which is less common type which can affect in any part of lungs.

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