**Abstract**

In recent years the image processing mechanisms are used widely in several medical areas for improving earlier detection and treatment stages, in which the time factor is very important to discover the disease in the patient as possible as fast, especially in various cancer tumors such as the lung cancer. Lung cancer has been attracting the attention of medical and sciatic communities in the latest years because of its high prevalence allied with the difficult treatment. Statistics from 2008 indicate that lung cancer, throughout world, is the one that attacks the greatest number of people. Early detection of lung cancer is very important for successful treatment. There are few methods available to detect cancerous cells. Here two methods of segmentation such as thresholding and watershed are used to detect the cancer celland too find out better approach out of them.

**I. INTRODUCTION**

CANCER is one of the most serious health problems in the world field. The mortality rate of lung cancer is the highest among all other types of cancer. Lung cancer is one of the most serious cancers in the world, with the smallest survival rate after the diagnosis, with a gradual increase in the number of deaths every year. Survival from lung cancer is directly related to its growth at its detection time. The earlier the detection is, the higher the chances of successful treatment are. An estimated 85% of lung Cancer cases in males and 75% in females are caused by cigarette smoking [1]. In 2013 About 1,660,290 new cancer cases are expected to be diagnosed in 2013, and in 2013 about 580,350 Americans are projected to die of cancer, almost 1,600 people a day. Cancer remains the second most common cause of death in the US, accounting for nearly 1 of every 4 deaths. The overall survival rate for all types of cancer is 63%. Although surgery, radiation therapy, and chemotherapy have been used in the treatment of lung cancer, the five year survival rate for all stages combined is only 14%. This has not changed in the past three decades [2]. Lung cancer frequently extends in the direction of the middle of the chest because the usual course of lymph out of the lungs is on the way to the centre of the chest. Metastasis happens when a malignancy cell plants the site where it begins and shifts into a lymph node or to one more part of the body in the course of the blood flow. Tumor that initiates in the lung is called crucial lung cancer. There are a number of dissimilar kinds of lung cancer, and these are separated into two major groups: Small cell lung cancer and non-small cell lung cancer. Non-small cell lung cancer has three subtypes: Carcinoma, Aden carcinoma and Squamous cell carcinomas. [3] The purpose of this paper is to find the cancerous cells present in the CT images of lung and give more accurate result by using various enhancement and segmentation techniques such as thresholding and watershed transform.