

UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

DETERMINING THE BEST RATIO OF DOSE
PER APPLICATION FOR RADIOTHERAPY
TREATMENT
BY USING GOMPERTZ MODEL

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ABSTRACT

Tumour are groups of abnormal cells that form lumps or growth. For this project, it focuses on breast tumour in determining the number of breast tumour cells after radiotherapy treatment. Gompertz model is used to measure the number of tumour cells based on the ratio of dose per application after radiotherapy treatment. The result from this project will show the best ratio of dose per application to the radiotherapy treatment for the fixed days which is 30 days.

1 INTRODUCTION

1.1 Research Background

Tumour is defined as a swelling a part of the body, generally without inflammation that caused by an abnormal growth of tissue whether benign or malignant. Benign tumour is beginning of tumour which is not spread to nearby tissue or another parts of body. Meanwhile, malignant usually called as cancer that widespread to another tissue or other parts of body. There are dozens of different types of tumours. Names of tumour usually reflect the kind of tissue that arise in and determine something about the shape or how it grows. Diagnosis of tumour depends on the types and location of the tumours.

Malignant tumour or cancer occur when cells in the body is change and grows uncontrolled causes of form a lump or mass of tumour. This project choose breast tumour patient as a fixed variable and also on the fixed days. So, this project will observed the number of tumour cells for radiotherapy treatment breast tumour patient based on the ratio of dose per application. Breast tissues that consist lobules which is glands for milk production and ducts that connect the lobules to the nipples is the part that breast tumour begin. Usually breast tumour can be detected during screening examination, before symptoms have developed or after a woman notice a lump. Masses or lump usually can be seen on a mammogram and it is turn out to be benign.

The most common physical symptom of the breast tumour is painless lump when size of breast tumour can be felt. Sometime, a lump or swelling can spread to the underarm lymph nodes even the breast tumour is not large enough to be felt. The less common symptom of breast cancer is breast pain or heaviness, the changes of breast shape such as the swelling, thickening or redness of breast skin and nipples abnormalities.

Some patients did not know the existence of breast tumour in their body unless they do the regularly medical check-up. Based on new technology computed tomography (CT) scan in