UNIVERSITI TEKNOLOGI MARA

TRADITIONAL SALADS IN MALAYSIA: POTENTIAL FOR PITFALLS IN CYTOLOGY DIAGNOSTIC.

BY

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DECLARATION

"I hereby declare that this thesis is my original work and has not been submitted previously or currently for any other degree at UiTM or any other institutions."

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ABSTRACT

Traditional salads in Malaysia: potential for pitfalls in cytology diagnostic.

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Introduction: Pitfalls in cytology refer to misinterpretation of finding which can cause false positive or negative. Misdiagnosed cases in gyne and non-gyne samples can affect treatment and morbidity. Furthermore, food contaminant such as fruits and vegetables can interfere during interpretation. Traditional Salads consumed by Malaysian, called 'ulam' is a possible contamination that can mimic during cytology diagnosis. The objective of this study is to describe the morphology of traditional salads cells in Malaysia and to identify the mimicking characters of these cells with normal, abnormal and microorganism from cytology samples.

Method: Random traditional salads from Malaysia were selected and homogenize using mortar and pestle. This is to resemble chewing affect by breaking down the cell into single cells. Each sample then smeared onto two glass slide with back to back method. One smeared slide was fixed using 95% of ethanol to retain cell structure and stain using Papanicolaus stain. The other smeared slide was left on air dried and stain using May Grunwald's stain. The cells then observed and capture using Laica DM750 Microscope with an ICC 50HD camera.

Result: Petai cells mimic clue cells in bacterial vaginosis and also *Trichomonas vaginalis* ghostly appearance. Bestowed, Asiatic pennywort and water dropwort have mimicking character of glandular cells of endocervical. Ulam raja mimics the character of endometrial. Meanwhile, sweet leaf has the character of squamous cells.

Conclusion: Most of traditional salads cells described in these study mimic normal cells while others mimic parasitic infection and bacterial vaginosis. Therefore, morphology of traditional salad cells in Malaysia can mimic human cells and cause pitfalls during cytology diagnostic. These finding can be used as a reference in cytology diagnostic to minimize the rate of pitfall, lead to proper treatment, and can safe life.

Keywords: potential, pitfalls, traditional salad.

CHAPTER 1

INTRODUCTION

1.1 Background of study

Pitfalls in cytomorphology diagnostic can be explained as the unsuspected or difficulty while interpreting samples. The cytopathologist should be aware while reading the smear and interpreting the result because of certain pitfalls (A. Singh, Carroll, & Mehrotra, 2013). Furthermore, study in 2005 by Raab et. al., has unveiled that error rate in gyne and non-gynecological diagnosis cases were 2-9% and 5-12% respectively (Berner & Graber, 2008). These pitfalls may affect treatment and sometime lead to fatal. The contamination can cause difficulty and confusion, therefore will cause either negative false or positive false while diagnosis (Idowu & Powers, 2010).

Food contaminant is a possible contaminant which can cause pitfall and it can affect various types of cytology samples (Chang et al, 2013). Vegetable contamination can occur in various samples such as from a sputum sample, bronchiolar-alveolar larvage, aspirated sample from respiratory tract and even Pap smear samples. However these contaminations occurrence in Pap smear sample are less certain. Previous study has proved that some of vegetable and fruit particle have the potential in mimicking cells in cytology specimen (Hughes, Volk, & Wilbur, 2003).