

Preoperative serum HE4 level in predicting the prognostic features of Endometrial Cancer (EC)

Htet, K.M.,¹ Thein, P.P.,² Tun, N.M.² Department of Obstetrics & Gynaecology, University of Medicine 1, Yangon, Myanmar

Introduction: EC is the most common gynaecological malignancy in female reproductive tract in the Western world. The incidence has been rising in the last decades worldwide. The prognostic factors are FIGO stage, histological type, tumor grade, LVSI, depth of myometrial invasion and nodal status. High serum HE4 levels may identify a more aggressive EC phenotype and may be an independent prognostic factor in poorly differentiated EC patients. The evaluation of serum HE4 levels might be useful as a simple and highly efficient tool to select high risk EC patients who could benefit from a tailored surgical treatment and adjuvant therapy.

Aim: To study preoperative serum HE4 level in predicting the prognostic features of EC

Method: This study was a hospital based cross sectional descriptive study and conducted after approval of the Research and Ethics Committee in Central Women's Hospital, Yangon. Preoperative serum HE4 levels were measured from 40 patients who were surgically treated for EC. To determine the best cut off point for HE4, ROC analysis and AUC was calculated. To find out the prediction of HE4 levels and prognostic features of EC, Chi-square test and Fisher's exact test were done.

Result: HE4 sensitivity in detecting of non-endometroid adenocarcinoma was 150 pmol/L with a specificity of 56.7%. AUC-ROC was 0.510 which denoting fail to use as a screening test. In ROC curve analysis, the best diagnostic cut off point for serum HE4 level of tumor grade 3 was 150 pmol/L with the sensitivity of 62.5% and specificity of 66.7%. AUC-ROC was 0.609 which denoting the poor accuracy of the test. In ROC curve analysis, the best diagnostic cut off point for serum HE4 level of FIGO stage II to IV was 150 pmol/L with the sensitivity of 56% and specificity of 73.3%. AUC-ROC was 0.621 which denoting the poor accuracy of the test. In ROC analysis, the best diagnostic cut off point for serum HE4 level of LVSI was 160 pmol/L with the sensitivity of 72.7% and specificity of 69%. AUC-ROC was 0.768 which denoting fair to use as a screening test. In ROC analysis, the best diagnostic cut off point for serum HE4 level of deep myometrial invasion was 140 pmol/L with the sensitivity of 55.6% and specificity of 50%. AUCROC was 0.596 which denoting fail to use as a screening test. In ROC analysis, the best diagnostic cut off point for serum HE4 level of nodal involvement was 130 pmol/L with the sensitivity of 50% and specificity of 45.8%. AUC-ROC was 0.417 which denoting fail to use as a screening test.

Conclusion: Serum HE4 level of LVSI was fair to use as a screening test for predicting the prognostic feature of EC.