

# 5<sup>th</sup> International Conference on Biomarkers & Clinical Research

April 15-17, 2014 St. Hilda's College - University of Oxford, UK

## Clinical use fulness of HE4 in endometrial cancer diagnostics- A pilot study

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**Problem Statement:** Our aims were to evaluate the benefits of the determination of human epididymis protein 4 (HE4) in the endometrial cancer diagnostics. We compared HE4 with cancer antigen 125 (CA125).

**Methods:** The total number of females was 66. The patient group consisted of 32 females with endometrial cancer and the control group of 34 healthy females. All diagnoses were verified histologically with equal representation of tumors in FIGO stage I - IV. Age distribution of Caendomerial group and healthy controls group were very similar. The average age was 58.5 and 65 years. HE4 were measured using ELISA kit (Fujirebio Diagnostics, Sweden). CA125 were measured using DxI instrument (Beckman Coulter, USA). The SAS 9.2 Software was used for all statistical analysis. Wilcoxon test was used to the comparison of cancer and healthy group.

**Results:** When HE4 was evaluated at 96.88% specificity: cut-off: 90.0pmol/L, sensitivity: 41.18%, positive predictive value: 93.33%, negative predictive value: 60.78% and an area under the curve: 0.8056. Comparison of distribution of Wilcoxon score between cancer and healthy group was statistically significant  $p < 0.0001$ . CA125 was evaluated at 96.88% specificity: cut-off: 42.0IU/L, sensitivity: 20.59%, positive predictive value: 87.50%, negative predictive value: 53.45% and an area under the curve: 0.5700. Comparison of distribution of Wilcoxon score between cancer and healthy group was statistically not significant  $p = 0.4442$ .

**Conclusions:** Measurement of HE4 is more sensitive than CA125 determination. Determination of HE4 is a useful tool for improving of endometrial cancer detection and next strategy of treatment.

### Biography

O. Topolcan is the Head of Immunoanalytical Laboratory Medical School Pilsen, Department of Nuclear Medicine Faculty Hospital Pilsen, Charles University, Prague. He is also Deputy Director of Faculty Hospital Pilsen for research and science. He is national representative and member of National Board European Association for Predictive, Preventive & Personalized Medicine (EPMA) and member of Academic Board EPMA. His research is particularly dedicated to the biomarkers related to endocrinology, oncology and internal diseases. He has been organizing National Immunoanalytical Conference in the Czech Republic as well as many international meetings related to the biomarkers. He was awarded Carl R. Jolliff Award by AACC in 2011.

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