92. SELF-SAMPLING VERSUS PHYSICIAN SAMPLING FOR CERVICAL CANCER SCREENING; THE AGREEMENT OF CYTOLOGICAL DIAGNOSES

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Background: The major problem with cervical cancer screening in countries which have no organized national screening program for cervical cancer is sub-optimal participation. Implementation of self-sampling method may increase the participation of women to screen for cervical cancer.

Aims: To determine the agreement of cytological diagnoses made on samples collected by women themselves (self-sampling) versus cytological diagnoses made on samples collected by physicians (Physician sampling)

Methods: We invited women volunteers to undergo two procedures; cervical self-sampling using the Evalyn brush and physician scraping using Cervex brush. They women were shown a video presentation on how to take their own cervical samples before the procedure. The samples taken by physicians were taken as per routine testing (Gold Standard). All samples were subjected to Thin Prep monolayer smears. The diagnoses made were according to the Bethesda classification. The results from the two sampling methods were analysed and compared.

Results: A total of 367 women were recruited into the study. Thin Prep smears by physicians were better in terms of volume and variety of the cells seen. There is significant good agreement of the cytological diagnoses made on the samples from the two sampling methods with the Kappa value of 0.568 ($p=0.040$). The Thin Prep smears by self-sampling method were better in detecting microorganisms.

Conclusion: This study shows that samples taken by women themselves (self-sampling) and physicians sampling had good cytology agreement. Self-sampling could be the method of choice in countries in which the coverage of women attending clinics for screening for cervical cancer is poor.

93. INHIBITORY EFFECTS OF MALAYSIAN TUALANG HONEY AND AUSTRALIAN/NEW ZEALAND MANUKA HONEY IN MODULATING EXPERIMENTAL BREAST CANCERS INDUCED BY *N-METHYL-N-NITROSOUREA* (MNU): A COMPARATIVE STUDY

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Introduction: Several studies have shown that honey being rich in sugars, polyphenols and flavonoids exhibits anticancer properties. Most studies were done on cancer cell lines, only a few studies were done *in vivo*.

Aim: To study the inhibitory effects of Malaysian Tualang honey and Australian/New Zealand Manuka honey on

experimental breast cancers induced by carcinogen; *N-methyl-N-nitrosourea* (MNU) in rats.

Methods: Forty female Sprague-Dawley rats were randomly divided into 4 groups with 10 animals each ($n=10$); Group 1 did not receive MNU and did not receive honey (Negative Control); Group 2 received MNU but not honey (Positive Control). Groups 3 and 4 were fed orally with 1.0 g/kg body weight of Tualang and Manuka honeys daily from day 0 of the experimentation. Cancer induction using MNU was done on the 7th day and development of mammary cancer masses was charted. All rats in all groups were given rat chowder ad-lib. The rats in group 3 and 4 continued to receive honey until the 120th day when they were sacrificed. The tumors were harvested for gross and histopathological examinations.

Results: The total number of tumors developed in all groups was 72; 39 (control) + 22 (TH) and 11 (MH). The mean number of tumors developed per rat in groups 2, 3 and 4 was, 4 ± 1.56 , 3 ± 1.41 , and 2.66 ± 2.25 respectively. The groups 2, 3 and 4 showed mean tumor size 2.43 ± 2.75 , 0.88 ± 0.95 and 0.81 ± 1.29 cm³ respectively. The number and size of tumors developed in treatment was smaller compared to non-treated control group ($p<0.05$). Honeys were found to reduce the number of tumor masses, and tumor size. Histopathological grading revealed that majority of TH and MH treated group tumors were of grade 1 and 2; TH Grade 1=9/22 (40.90%), TH Grade 2=9/22 (40.90%), TH Grade 3=4/22 (18.18%); MH Grade 1=8/11 (72.72%), MH Grade 2=3/11 (27.27%), MH Grade 3=0/11 (0%) compared to the control; grade1=7/39 (17.94%), grade2=10/39 (25.64%), grade 3=22/39 (56.41%).

Conclusion: Tualang and Manuka honeys have an inhibitory effect on breast carcinogenesis in rats when given one week prior to tumor induction. Manuka honey seems more effective to modulate breast cancer carcinogenesis compared to Tualang honey.

94. TARGETED DISCOVERY AND VALIDATION OF PLASMA BIOMARKERS OF PARKINSON'S DISEASE

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Despite extensive research, an unmet need remains for protein biomarkers of Parkinson's disease (PD) in peripheral body fluids, especially blood, which is easily accessible clinically. The discovery of such biomarkers is challenging, however, due to the enormous complexity and huge dynamic range of human blood proteins, which are derived from nearly all organ systems, with those originating specifically from the central nervous system (CNS) being exceptionally low in abundance. In this investigation of a relatively large cohort (~300 subjects), selected reaction monitoring (SRM) assays (a targeted approach), were used to probe plasma peptides derived from glycoproteins previously found to be altered in the CNS based on PD diagnosis or severity. Next, the detected peptides were interrogated for their diagnostic sensitivity and specificity, as well as the correlation with PD severity as determined by the Unified Parkinson's Disease Rating Scale (UPDRS). The results revealed that 12 of the 50 candidate glycopeptides were reliably and consistently identified in plasma samples, with three of them displaying significant differences among diagnostic groups. A combination of four peptides (derived from PRNP, HSPG2, MEGF8, and NCAM1) provided an overall area under curve (AUC) of 0.753 (sensitivity: 90.4% and specificity: 50.0%). Additionally, combining