increasingly in cancer genomics research. We use the NGS to investigate the process of malignant transformation of endometriosis.

DESIGN: We collected four parts of pathological specimen, consisting of eutopic endometrium, non-atypical endometriosis tissue, atypical endometriosis and ovarian carcinoma tissue from EAOC patients. NGS was applied to investigate the gene mutations during the transformation process.

MATERIALS AND METHODS: In this project, we use the Ion AmpliseqTM Comprehensive Cancer Panel (CCP) which targets the exons of 409 tumor suppressor genes and oncogenes in order to identify pathogenic mutations associated with EAOC. Ten cases of EAOC were enrolled in this study. For each case, macrodissection was performed to separate different four types of cells from formalin-fixed paraffin-embedded (FFPE) sections.

RESULTS: The DNA of endometriosis patients was extracted from formalin-fixed paraffin embedded (FFPE) tissue. Samples include four transformation processes that are normal eutopic endometrium, nonatypical endometriosis, atypical endometriosis and carcinoma tissue from the same patients of endometriosis associated with ovarian cancer. The NGS direct sequencing found that coding sequence of exon 1 in ARID1A gene and exons 20 in PIK3CA gene were screened for mutations. Our results showed that ARID1A and PIK3CA mutation (c.6488delG and c.3140A>G) were identified in the carcinoma tissue, but not in endometrium, non-atypical endometriosis and atypical endometriosis.

CONCLUSIONS: Our study aims to develop and validate NGS platform for identifying the critical factor in the early event of the malignant transformation process of endometriosis. ARID1A and PIK3CA mutations contribute to the transformation process in our study. We believe this study will shed new light on fundamental aspects in the understanding the molecular pathogenesis of malignant transformation of ovarian endometriosis.

Supported by: This work is Supported by MST Taiwan [grant number 102-2628-B-037-011-MY3 and 102-2632-B-037-001-MY3].

P-148 Tuesday, October 20, 2015

COMPARATIVE ANALYSIS OF MEMBRANE MICROPARTICLES (MP) EXPRESSION IN WOMEN WITH EPITHELIAL OVARIAN CANCER (EOC) AND ENDOMETRIOMAS. J. A. Falcao, Jr.,[a] F. F. Nunes,[b] J. Marinuzzi,[c] O. A. Martins-Filho,[b] A. T. Carvalho,[b] R. M. Lamaita,[a] M. M. Carneiro,[a] A. L. Silva-filho.[a] [a]Obstetrics and Gynecology, Federal University of Minas Gerais, Belo Horizonte, Brazil; [b]Centro de Pesquisas Rene Rachou - Fiocruz, Belo Horizonte, Brazil; [c]UNESP Botucatu, Botucatu, Brazil.

OBJECTIVE: Microparticles (MP) are small vesicles derived from cell membranes which have been recognized as important mediators of cell activity and may associated with pathological and physiological processes such as immune response, cell differentiation, vascular disorders and cancer. The aim of this study is to compare circulating MP according to their specific cellular origin in women with endometrioma, EOC and controls.

DESIGN: Prospective evaluation of 60 women from March 2010 to October 2013 divided into three groups: EOC (n=26); endometriomas (n=18); control (n=16; women operated for benign gynecologic disease with normal ovaries).

MATERIALS AND METHODS: A convenience sample was used due to the low prevalence of EOC and the strict inclusion and exclusion criteria. Surgical staging was performed according to the FIGO classification or ASRM endometriosis staging as appropriate. Exclusion criteria were: previous chemotherapy and/or radiotherapy; immune system diseases diagnosis and / or use of immunosuppressive drugs within the past 6 months, acute infections, identification of distinct malignancy from EOC in the histopathological exam. Serum levels of CD66 +/neutrophils, CD45 +/leukocytes, CD14 +/monocytes, CD235 +/erythrocytes, CD51 +/endothelium, CD41 +/platelets, CD3 +/lymphocytes were performed by flow cytometry. The differences between groups were evaluated by Mann-Whitney or Kruskal-Wallis tests. $P < 0,05$ was considered statistically significant.

RESULTS: Mean patient age was: EOC (62± 14.06), endometrioma (37±10.31) and control (40±8,8) years. Ten cases were identified as FIGO stage I and II, and 16 as III/IV. Fifteen women were classified as ASRM stage III and 3 as stage IV. Women with endometrioma were associated with higher circulating levels of CD45 +/leukocytes (p= 0.0292), CD14 +/monocytes (p=0.012), CD235 +/erythrocytes (p=0.0341), CD51 +/endothelium (p=0.0228) and CD41 +/platelets (p=0.0464) compared to patients with EOC and control group. No association was found between age of the patients of the 3 groups and the MP assay neither with maximum diameter of the lesion in the endometrioma group.

CONCLUSIONS: Our data shows for the first time that women with endometrioma present with higher MP circulating levels compared EOC patients. MP have potential use in understanding the cellular microenvironments associated with these diseases and may contribute to the improvement in screening, diagnosis and therapeutic strategies.

P-149 Tuesday, October 20, 2015

THE LONG TERM RECURRENCE RATE AFTER CONSERVATIVE SURGICAL TREATMENT OF ENDOMETRIOSIS IN ADOLESCENTS. Y. Cho,[a] S. Lee,[b] M. Kim,[c] J. Bae,[d] M. Han,[d] J. Park.[d] [a]Department of Obstetrics and Gynecology, Dong-A University Medical Center, Dong-A University, College of Medicine, Busan, Korea, Republic of; [b]Dankook University, School of Medicine, Cheil Gene, Seoul, Korea, Republic of; [c]Department of Obstetrics and Gynecology, CHA Gangnam Medical Center, CHA University, Seoul, Korea, Republic of; [d]Dong-A University Hospital, Busan, Korea, Republic of.

OBJECTIVE: Endometriosis, while generally considered as a disease that affects adult women, has become increasingly recognized as a chronic illness that can begin during adolescent and young adulthood. This patient group presents particular challenges in terms of differential diagnosis, variable presentation and symptoms, and choice of treatment. There is very limited research in adolescents with endometriosis and long term studies about the recurrence or progression are not well understood. We aimed to evaluate the long term recurrence rate of ovarian endometriomas in adolescents following the first conservative surgical treatments.

DESIGN: Multicenter retrospective cohort study

MATERIALS AND METHODS: Patients $\leq$ 20 years of age who were surgically treated with laparoscopic enucleation of ovarian endometrioma were selected. We included patients only who were followed up more than 36 months. We excluded patients who had reproductive tract anomalies, those who underwent non-conservative procedures, such as oophorectomy, those who underwent cyst aspiration. Recurrence of the endometrioma was established on the basis of transvaginal or transrectal sonography documenting the presence of a cystic mass with a diameter of $\geq$ 20 mm. Baseline surgical characteristics were analyzed.

RESULTS: We recruited 51 adolescent patients who were followed up more than 36 months. The mean age of patients was 19.0 $\pm$ 1.1 years (range, 16-20 years). According to our definition of recurrence, 15 patients (29.4%) experienced recurrence of ovarian endometrioma after first laparoscopic cyst enucleation. The overall cumulative recurrence rates of ovarian endometrioma per patient at 24, 36, 60, and 96 months after first-line surgery as 8.2%, 10.2%, 20.8%, and 37.4%, respectively. Surgical characteristics, such as the diameter of the cyst, disease stage, unilateral or bilateral involvement, and co-existence of deep endometriosis, and postoperative medical therapy were not associated with recurrence in adolescents.

CONCLUSIONS: The long-term recurrence rate in adolescent after the conservative surgery was dependent on the months that had elapsed since treatment, and this value increased over time. Long-term and continuous follow up is needed who have undergone surgical treatment for endometriosis in adolescent period.

P-150 Tuesday, October 20, 2015

EXPRESSION OF HOXB4 IN ENDOMETRIAL TISSUES FROM WOMEN WITH OR WITHOUT ENDOMETRIO SIS. G. M. Alkusayer,[a,b] B. Peng,[c] C. Klausen,[d] S. Lisonkova,[d] M. Kinloch,[e] P. Yong,[f] M. A. Bedaiwy.[g] [a]Department of Clinical Sciences, College of Medicine, Princess Nourah Bint Abdulrahman University, Riyadh, Saudi Arabia; [b]Department of Obstetrics and Gynaecology, University of British Columbia, Vancouver, BC, Canada; [c]University of British Columbia, CFRI, Vancouver, BC, Canada; [d]University of British Columbia, Vancouver, BC, Canada; [e]Vancouver General Hospital, Vancouver, BC, Canada; [f]Assistant Professor, Vancouver, BC, Canada; [g]BC Women's Hospital, Vancouver, BC, Canada.

OBJECTIVE: HOX genes play important roles in the functional differentiation of adult tissues by regulating proliferation, angiogenesis, adhesion and motility. The aim of our study was to examine the expression and localization of HOXB4 in normal human endometrial tissues as well as eutopic endometrium and ectopic implants from women with endometriosis throughout the menstrual cycle.

DESIGN: Case-control study.