

of terminal villous vessels, and avascular villi were distinguishable by this technique in 8 cases. We believe this new blood flow imaging technique is acceptable not only for the purpose of perinatal clinical assessments but also pathophysiological clarifications of various placental abnormalities.

49. NEW ASSAY FOR DETECTING ENDOPLASMIC RETICULUM STRESS-MEDIATED AUTOPHAGY FAILURE IN HUMAN TROPHOBLASTS

Akitoshi Nakashima, Tae Kusabiraki, Aiko Aoki, Akemi Ushijima, Ippei Yasuda, Sayaka Tsuda, Tomoko Shima, Shigeru Saito. *Department of OB/GYN, Faculty of Medicine, University of Toyama*

Purpose: Excessive endoplasmic reticulum stress [ERS] leads to placental dysfunction, resulting in pre-eclampsia [PE]. It is still unknown the mechanisms by which excessive ERS impacts trophoblasts. Here, we show that ERS affects autophagy via reducing the lysosomes in trophoblast cells. **Methods:** Trophoblast cell lines and primary human trophoblasts [PHT] were devoted in this study. All human samples were obtained from the patients with informed consent. Tunicamycin [TM] or brefeldin A [BFA] was for inducing ERS.

Results: TM or BFA increased the LC3-II expression, an autophagosome [Ap] marker, in the trophoblast cell lines. We then compared the numbers of Ap and autolysosomes [Al] by immunocytochemistry; the number of Ap but not Al was increased in the cells with BFA or TM, but both Ap and Al were increased in the cells with control, suggesting blockade of autophagy flux by ERS. Next, ERS reduced the number of intracellular and cellular surface lysosomes, suggesting the inhibition of lysosomal exocytosis. The ERS-mediated inhibition of lysosomal exocytosis was supported with the result that the LAMP1 in the culture media was detected from the control cells, but not the cells with TM. In addition, serum LAMP1 and beta-galactosidase levels, a lysosomal hydrolytic enzyme, were significantly decreased in PE patients, compared to normal pregnancy, indicating ERS-mediated lysosomal dysfunction in PE placentas.

Conclusion: Excessive ERS inhibits autophagy via impairment of lysosomes, resulting in disruption of homeostasis in trophoblasts.

50. A CASE REPORT; INNOVATIVE IMAGING TECHNOLOGIES OF SMI, ATI, AND SMART FUSION WITH MRI WERE USEFUL TO IDENTIFY THE LOCATIONS OF PLACENTAL HEMATOMAS

Takeshi Umazume¹, Michinori Mayama¹, Yoshihiro Saito¹, Kinuko Nakagawa¹, Kentaro Chiba¹, Satoshi Kawaguchi¹, Mamoru Morikawa¹, Yuko Tashiro², Ayumi Ishida², Hidemichi Watari¹. ¹ *Department of Obstetrics and Gynecology, Hokkaido University;* ² *Canon Medical Systems Corporation*

Introduction: We report a case that three new ultrasonographic technologies of superb microvascular imaging (SMI), attenuation imaging (ATI), and real-time MRI and ultrasound (MRI-US) display technology (Canon Medical Systems Corporation) were useful to determine the precise location and extent of the hematomas.

Case: A 30s-year-old nulliparous Japanese woman was referred to our hospital at gestational week (GW) 15 owing to vaginal bleeding. The posterior wall of the uterus was thickened with adenomyosis, and the placenta attached on the thickened posterior wall. Because arteriovenous fistulas at the lower right side of the uterine was confirmed, we took MRI at GW 16–6/7 and examined the placenta using real-time MRI-US display technology at GW 17–0/7. We identified post-placental hematoma and peri-, pre-placental tiny hemorrhage using MRI-US fusion technique with SMI. At GW 19, the pre-placental hemorrhage enlarged to more than half size of placenta and formed fluid-fluid level in the hematoma. The border with placenta parenchyma and the hematoma was indistinct but was able to identify using ATI.

Discussion: The placental hematoma may cause the placental abruption. However, the location of hematoma could not be determined by conventional ultrasound because hematomas may be isoechoic to placental tissue. SMI, which can reveal microscopic and low-velocity blood flow, and ATI,

which displays a color maps with an attenuation coefficient of the supersonic wave signal intensity, may be useful to identify the placental hematoma.

51. PLACENTAL POLYP FROM SECOND-TRIMESTER ABORTION

Kazuya Mimura^{1,2}, Masayuki Endo^{1,2}, Tatsuya Miyake¹, Aiko Kakigano¹, Shinya Matsuzaki¹, Yoko Kawanishi¹, Takuji Tomimatsu¹, Tadashi Kimura¹. ¹ *Department of Obstetrics and Gynecology, Osaka University Graduate School of Medicine;* ² *Center for Fetal Diagnosis and Treatment, Osaka University Graduate School of Medicine*

Objective: Second-trimester abortion is often performed in Japan by induction using gemeprost. Although the frequency of complications is lower than in term delivery, the mental burden is large and safety needs to be more carefully considered.

Methods: We conducted a retrospective study of pregnant women who underwent second-trimester abortion for eight years in our hospital. Color Doppler ultrasound was used to investigate the incidence of placental polyps after delivery and the time required for remission.

Results: The mean appearance of placental polyps with vascularity was 3 weeks later after delivery. There were few cases of bleeding that required hospitalization. All cases disappeared within 5 months of expectant management.

Conclusion: 1) The incidence of placental polyps with vascularity after second-trimester abortion is high. 2) Because the appearance is not immediate and most are asymptomatic, there are many cases that are not noticed. 3) Even if there is bleeding, menstruation may only be resumed. Few cases need invasive treatment such as UAE or TCR. 4) All cases disappeared spontaneously on expectant management.

52. MANAGEMENT OF RETAINED PRODUCTS OF CONCEPTION (RPOC): THE EXPERIENCE IN A SINGLE HOSPITAL

Mizuki Hattori, Chifumi Oyagi, Sayaka Suga, Mari Tabuse, Mai Nagai, Naho Umezawa, Soonna Yoon, Etsuko Nakao Kajimoto, Yumiko Kiyohara, Tateki Tsutsui. *Japan Community Health care Organization Osaka Hospital*

Objective: To compare our management for RPOC among patients who were followed under observation or aggressive treatments such as suction curettage, hysteroscopic removal, uterine artery embolization (UAE) and total hysterectomy.

Methods: We retrospectively reviewed medical records of 23 women who were treated for RPOC in our hospital between 2014 and 2019.

Results: RPOC of 12 women which could be followed under watchful observation disappeared spontaneously within an average of 120 days. Only one patient who underwent first-trimester abortion had massive bleeding during observation. Therefore, she was treated with a total hysterectomy. In other cases, we performed D&C (Dilation & Curettage) for three women, hysteroscopic removal for two women, following under observation after UAE for one woman and hysteroscopic removal after UAE for four women.

Conclusion: RPOC can trigger massive bleeding suddenly. If it happens, it is possible that we perform a total hysterectomy. Thus, we should evaluate how many risks each patients have when RPOC occurs. It is sensible that patients who are expected to have only a few risks may be allowed to be managed under observation strictly and wait for disappearance of RPOC spontaneously.

53. IMAGE ANALYSIS AND PATHOLOGICAL DIAGNOSIS OF PLACENTAL SLOW BLOOD FLOW REGION

Rie Oyama, Yuri Sasaki, Chizuko Isurugi, Miyuki Terata, Hanae Kamura, Shinya Hatayama, Gen Haba, Atsumi Chiba, Tsukasa Baba. *Department of Obstetrics and Gynecology, Iwate Medical University*

Aim: To Detect the small and slow blood flow of the placenta is expected to be useful for deterring vascular diseases such as placental factor and Hypertensive disorder pregnancy (HDP). This study presents open source image processing software for science. We examined the relationship between image analysis of placental slow blood flow area and placental pathology findings.

Methods: (1) FGR case with chronic intervillitis (n=1). (2) HDP with placental abruptio. (n=1) (3) Normal pregnant woman (n=1). Ultrasonic sonography apparatus (a) Aplio i 700 (Canon Medical Systems). (b) Voluson E10 (GE Healthcare) (1) The Aplio i 700 used the mSMI and cSMI. (2) The Voluson E10 used the Slow flow HD & Radiant flow, 3D-power doppler. The image was taken into Image J, and the ROI for image analysis was re-identified on Image J.

Results: This study shows that signal strength of the intra-placental blood flow with a small and complex form.

Discussion: In this study It was possible to show the identification and signal intensity of placental blood flow with fine and complicated morphology by Image J. And, Analysis of FGR intraplacental blood flow is expected to lead to an indicator of severity.

Conclusions: It is possibility fetal blood vessels of around 0.1 mm may be detected. It is expected that this study will be on the step for the determination of reduced placental blood flow and the ischemic region.

54. PREVALENCE OF CHRONIC ENDOMETRITIS IN 14 PATIENTS WITH IMPLANTATION FAILURE AND THE REPRODUCTIVE OUTCOME

Mika Handa, Tsuyoshi Takiuchi, Futa Ito, Naoko Takahashi, Masako Kanda, Sachi Takaoka, Tatsuya Miyake, Tadashi Kimura. *Department of Obstetrics and Gynecology, Osaka University*

Objective: The aim of this study was to investigate the prevalence of chronic endometritis (CE) in infertile women with a history of implantation failure (IF) and to determine whether antibiotic treatment improves their reproductive outcome in the following frozen embryo transfer (FET) cycles.

Methods: A retrospective study was performed at our institution from October 2018 through June 2019. Proliferative phase endometrial biopsy obtained from 14 infertile women with IF were subjected to immunohistochemical/histopathologic diagnosis of CE. Following antibiotic administration to the CE group, their histopathologic cure rate and reproductive outcome in the subsequent FET cycles were examined.

Results: In 14 infertile patients with IF, 35.7% (5 of 14) of them were diagnosed with CE (CE group). Following the doxycycline treatment, the histopathologic cure rate in the subsequent endometrial biopsy was 20% (1 of 5). Following the metronidazole/ciprofloxacin treatment, the overall cure rate was 60% (3 of 5). Among 7 patients in non-CE group, one patient achieved a clinical pregnancy, and two were diagnosed with chemical pregnancy in cumulative FET cycles. In CE group, only one patient, who was recovered from CE after the second-line treatment, attempted the FET and achieved a clinical pregnancy in the second FET cycle, although she experienced five failed FET cycles before the diagnosis of CE.

Conclusion: We found CE in 35.7% of infertile women with a history of IF in our institution and the clinical pregnancy after the treatment of CE. Further investigations are warranted.

55. THREE CASES OF VASA PREVIA

Yangsil Chang¹, Mariya Kobayashi¹, Midori Taniguchi¹, Naoya Shigeta¹, Takahide Maenaka¹, Hiroaki Tsubouchi¹, Kayoko Shikato¹, Takeshi Yokoi², Kazuhide Ogita¹. ¹Department of Obstetrics and Gynecology, Rinku General Medical Center; ²Department of Obstetrics and Gynecology, Kaizuka City Hospital

Introduction: Vasa previa is uncommon, but intrapartum diagnosis is very important. We had 3 cases of vasa previa.

case1: A 41-year-old woman was referred for low-lying placenta. Vaginal ultrasonography revealed a low-lying placenta and velamentous cord

insertion with low-lying placenta. The placenta had migration, but transvaginal color Doppler ultrasonography revealed fetal blood vessels covering the internal cervical os, a finding consistent with vasa previa. The patient underwent a scheduled cesarean delivery at 36 weeks of gestation.

case2: A 35-year-old woman was referred for placenta previa. The placenta had migration, and transvaginal color Doppler ultrasonography revealed fetal blood vessels covering the internal cervical os. The patient underwent a scheduled cesarean delivery at 36 weeks of gestation.

case3: A 31-year-old woman was referred for low-lying placenta. The placenta had migration, but transvaginal color Doppler ultrasonography revealed fetal blood vessels covering the internal cervical os, a finding consistent with vasa previa. The patient underwent a scheduled cesarean delivery at 37 weeks of gestation.

Conclusion: The antepartum diagnosis of vasa previa improves the perinatal survival rate.

56. ANGIOGENESIS CAPACITY OF MESENCHYMAL STEM CELLS DERIVED FROM PREECLAMPTIC PLACENTA

Noriko Nagata^{1,2}, Naoki Fuchi¹, Tao-Sheng Li², Kiyonori Miura¹. ¹Department of Obstetrics and Gynecology, Nagasaki University Graduate School of Biomedical Sciences; ²Department of Stem Cell Biology, Atomic Bomb Disease Institute, Nagasaki University

Objectives: Human placental mesenchymal stem cell (MSC) has been suggested as a possible therapeutic potentials for the pregnancy-related disorders. In this study, we analyzed the tube formation ability of human preeclamptic placenta-derived MSC (PE-MSC) to assess the angiogenesis capacity via paracrine effect of MSCs.

Methods: PE-MSCs (n=5) and physiologic placenta-derived MSCs as a control (CTL-MSC, n=8) obtained following written informed consent, were primarily isolated and cultured for 48 hours in a serum-free medium, then their conditioned mediums (CM) were extracted. Human umbilical vein endothelial cells (HUVEC) were seeded on matrigel-coated plates and cultured with PE-CM, CTL-CM, complete medium which contains serum and angiogenic factors as positive control (PC) and serum-reduced medium as negative control (NC). Following incubation for 16 hours, each tube formation of HUVECs was observed under a light microscope, and the average of total mesh area and total tube length was calculated by Image J software. Statistical significance was determined using Mann-Whitney U tests. This study protocol was approved by the IRB for Ethical, Legal and Social Issues.

Results: The total area was significantly larger in PE-CM than in CTL-CM, and the total segment length was significantly longer in PE-CM than in CTL-CM.

Conclusion: Our findings supported that conditioned medium of placental MSCs derived from patients affected by preeclampsia had significant angiogenic features in comparison with those from physiologic pregnancy.

57. MATERNAL FLOOR INFARCTION ASSOCIATED WITH FETAL GROWTH RESTRICTION: A CASE REPORT

Toshiko Minamoto¹, Nagisa Tatsumi¹, Sonomi Kurose¹, Kiyoka Sawada¹, Yuki Yoshimura¹, Hitomi Yamashita¹, Tomomi Hara¹, Tomoka Ishibashi¹, Masako Ishikawa¹, Aki Oride¹, Kentaro Nakayama¹, Haruhiko Kanasaki¹, Satoru Kyo¹, Noriyoshi Ishikawa². ¹Department of Obstetrics and Gynecology, Shimane University; ²Department of Pathology, Organ Pathology Section

Introduction: Maternal floor infarction (MFI) is a rare disease and is one of the causes of fetal growth restriction. There are few reports of its clinical reports. We report MFI cases diagnosed at our department.

Case: The authors report a case of a 20-year-old Japanese primipara who became pregnant spontaneously. She was introduced to our department to close examination purpose at 30 weeks of gestation. At the first examination, there were no morphological abnormalities or blood flow abnormalities other than FGR of 3SD and mild amniotic fluid loss (AFI 8.2). Fetal