**IS-AC-2-7** The risk estimation of gestational trophoblastic neoplasia after cytogenetically defined hydatidiform molar pregnancy: A prospective cohort study

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[Objective] The incidence rates of gestational trophoblastic neoplasia (GTN) after partial moles (PHM) have been reported from 1% to 20%. This wide range is due to diagnostic uncertainty. This study aimed to clarify GTN rates after molar pregnancies, especially after PHM. [Methods] We recruited 328 participants for a molecular diagnostic study of suspicious molar pregnancy from 2007 to 2015. The institutional review board approved this prospective cohort study. Cytogenetic diagnosis was performed with multiplex short tandem repeat polymorphism analysis. [Results] Cytogenetic diagnosis was possible in 310 cases. Complete moles (CHM) (androgenetic), PHM (diandric monogonygic triploid), and abortion (biparental diploid) occurred in 185, 54, and 71 cases. All cases progressed to GTN before hCG normalization and were classified as low-risk GTN. The incidence rates of GTN were 18% (30/163), 27% (6/22), 2% (1/54), and 0% (0/71) in homozygous CHM, heterozygous CHM, PHM, and abortion, respectively. Compared with that of homozygous CHM, the odds ratios of heterozygous CHM, PHM, and abortion were 1.66 (confidence interval: 0.49–4.9), 0.84 (0.02–0.53), and 0 (0–0.26). [Conclusion] The cytogenetically diagnosed incidence rate of GTN after PHM is much lower than that after CHM, but it is not zero. Further studies are needed to elucidate the specific incidence rates, especially those after PHM.

**IS-AC-3-1** Randomized Controlled Trial Comparing Two Different Regimes of Magnesium Sulphate in Severe Preeclampsia: PIPES Trial

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[Objective] To compare the efficacy and safety of "Standard Dhaka" regime with "Loading dose only" regime for seizure prophylaxis in severe preeclampsia. [Methods] This was a randomized open-label, parallel arm, trial with 1:1 allocation ratio conducted in the labour ward attached to the Department of Obstetrics and Gynaecology, Jawaharlal Institute of Medical Education & Research, Pondicherry, India. Four hundred and two women admitted with a singleton pregnancy complicated by severe pre-eclampsia according to the ACOG Criteria were randomized to Standard Dhaka regime (Loading dose of 10gm and maintenance dose of 2.5gm every 4th hourly, 5 doses) or loading dose only regime (Loading dose of 10gm and no maintenance doses). Primary outcome of the study was development of eclampsia within 48 hours of the loading dose. [Results] The incidence of eclampsia in the women who received "standard Dhaka" regime (Group A) was 3.48% (7/201) and that in the "Loading dose only regime" (Group B) was 1.49% (3/201) (relative risk=2.38, 95% confidence interval 0.61, 9.34, p=0.194). Women assigned to group B had similar rates of cesarean section (22.39% vs 23.88%, p=0.61), postpartum hemorrhage (29.9% vs 19.8%, p=0.194), and acute renal failure (1.99% vs 0.3%), Neonatal outcome such as Apgar score at 5 minutes (8.05% vs 5.03%) and perinatal mortality (21.89% vs 20.40%) were similar in both groups. [Conclusions] "Loading dose only" regimen offers the safety advantages of a single administration while retaining the efficacy similar to "Standard Dhaka regime" in preventing eclampsia. Larger multicenter studies would be required to assess the impact and incidence of rare events before incorporation into routine clinical practice.

**IS-AC-3-2** Hypoxia-dependent upregulation of placental hypoxia-inducible factor-1α contributes to the pathogenesis of preeclampsia

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[Objective] Preeclampsia (PE) is known to be characterized by elevated placental hypoxia-inducible factor-1α (HIF-1α) levels. However, pathologic role of placental HIF-1α in PE remains largely unknown. Here, we examined the mechanisms underlying the elevation of placental HIF-1α and its role in PE. [Methods] Two independent PE mouse models induced by angiotensin II type I receptor agonist autoantibody (AT1-AA) or inflammatory cytokine LIGHT (tumor necrosis factor superfamily member 14) were conducted. In vivo siRNA-induced knockdown of HIF-1α was conducted to assess the role of HIF-1α. The research protocol was approved by the Institutional Committee. [Results] HIF-1α expression was elevated in the placentas of two PE models. Knockdown of placental HIF-1α by siRNA attenuated PE features induced by AT1-AA or LIGHT in pregnant mice, including hypertension, proteinuria, and elevated circulating sFlt-1 levels. In vitro studies with human villous explants (HVE) showed that AT1-AA or LIGHT induces HIF-1α expression in a hypoxia-independent manner. Moreover, increased HIF-1α was found to be responsible for AT1-AA or LIGHT-induced elevation of Flt-1 gene and production of sFlt-1 in HVE. [Conclusion] Our data revealed that the elevated placental HIF-1α initially triggered by hypoxia-independent factors, such as AT1-AA or LIGHT, plays a key role in the pathogenesis of PE.