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Obliterative endarteritis in placentae and hypertensive disorders of pregnancy: a case control study

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Objective: Obliterative endarteritis in placenta is known to interrupt the fetal circulation in hypertensive disorders related to pregnancy.

Design, setting and methods: Case control study was performed among 196 pregnant mothers (median age of 29 years, range 15-42 years) with hypertensive disorders complicating pregnancy and 150 normal mothers (median age 28 years; range 15-41 years). Mothers who had blood pressure of 140/90 mmHg or above on admission and remaining above that level after 24 hours of admission, mothers with diastolic blood pressure of 110 mmHg on admission, eclamptic mothers and known hypertensive mothers who are currently on antihypertensive drugs were included. All cases were classified as essential hypertension, pregnancy induced hypertension (PIH), pre-eclamptic toxaemia (PET), severe pre-eclamptic toxaemia and eclampsia. Haematoxyiin and Eosin stained placental tissue sections were visualized under light microcopy. Presence of Obliterative endarteritis was confirmed by the swelling, proliferation of endothelial cells, thickening of the basement membrane and fibromuscular sclerosis of the vessel wall. Results: In controls, 61/150 (40.7 %) and in cases, 150/196 (76.5%) had endarteritis (P=0.001). Among the cases, placentae in mothers with essential hypertension, PIH and PET showed endarteritis in 24/34 (70.6 %), 73/93 (75.3%) and 29/37 (78.4 %) respectively. 24/32 (75%) placentae of mothers with severe pre-eclapmtic toxaemia and eclampsia had endarteritis (severe vs. non-severe hypertensive disorders, P=0.2). Conclusion: The incidence of Obliterative endarteritis in placenta is common in hypertensive disorders, but showed no significant difference with the different types of hypertensive disorders.