Title: Physiological changes in pregnancy leading to stroke

Statement of the problem: Stroke is a significant contributor to maternal morbidity and morbidity with a higher risk in pregnant women than in non-pregnant women (21 per 100.000). Stroke in pregnancy is divided into ischemic and hemorrhagic disorder. Ischemic stroke depicts insufficient blood flow to particular area in the brain while in hemorrhagic stroke; blood extravagantes into brain parenchyma or in the subarachnoid space. The objective of this literature review is to highlight pregnancy induced physiological changes contributing to stroke.

Methodology: A maximum of 5 recent literature articles were reviewed (from 2014-2017), utilizing the authentic sources (Science Direct, ePub and Sage).

Findings: Pregnancy associated physiological changes leads to increased risk of ischemic stroke. It comprises of hemodynamic changes (hemodilutional anemia, variations in blood pressure, venous stasis), vascular abnormalities (decreased collagen and elastin content in blood vessels, increased stiffness and relaxation response), endothelial dysfunction (increased vessel wall permeability and vasogenic edema) and most significantly, alteration in the coagulation system. A procoagulant state is created by alteration in levels of coagulation factors, most notably by increases in procoagulant levels (factors I, VII, VIII, IX, X, XII, and XIII) and decreases in levels of coagulation inhibitors (antithrombin III, protein S, functional resistance to activated protein). On the contrary, pregnancy-related hemorrhagic stroke often occurs in preeclampsia-eclampsia associated rupture of intracerebral aneurysms and arteriovenous malformations.

Conclusion: Stroke in pregnancy is rare, but it causes significant morbidity and mortality. The changes in hemodynamic, coagulation, and vascular function are associated with increased risk of stroke during pregnancy. Health care professional needs to vigilantly monitor these changes and consider these disorders when pregnant and postpartum women present with headaches and other neurological symptoms.

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Biography:

Zohra Nasrullah is currently working as Registered Nurse in Mind and Brain Service line since 2014 in the Aga Khan University Hospital Karachi Pakistan. She works in special care unit in the mind and brain service line. She looks after the neurosurgery and neurology patients. She has expertise in caring for patients requiring frequent neurological assessment, early identification and prompt response to deteriorating condition of patients thereby improving patient's outcome. She completed her Bachelor of Science in Nursing from The Aga Khan University Hospital Karachi Pakistan.