

ABSTRACT

Calcium in Normal and Hypertensive Pregnancies

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This thesis analyses the changes in total serum calcium concentrations in normal and hypertensive pregnancies. A comparison is also made between calcium levels in healthy, young, nonpregnant women and a similar group of mothers with uncomplicated pregnancies. Pre-eclampsia and eclampsia continue to be a leading cause of maternal and perinatal morbidity and mortality. Yet attempts at prediction and prevention of hypertensive disorders of pregnancy are unsuccessful. A critical cut-off value of serum calcium is evaluated as a screening test for the prediction of hypertensive pregnancies. Calcium supplementation with or without low-dose aspirin was administered to two high risk groups for pre-eclampsia viz young primigravidae (<24 years) and women with a past history of pre-eclampsia. It is therefore possible to study the benefits, if any, of supplementation with calcium and/or low-dose aspirin in a country where pre-eclampsia is a serious and common obstetrical problem.

Calcium levels in the first trimester of pregnancy are similar to nonpregnant values. There is a

significant decline in calcium concentrations up to 33 weeks gestation and then a slight rise occurs until term. In hypertensive pregnancies, severe disease is more commonly associated with low calcium values. Although the specificity is high, the low sensitivity and low predictive value of a critical calcium level limit the usefulness of this as a good screening test. It is recommended that a study should be performed to determine whether a combination of the "roll-over" test and serum calcium can fit the requirements of a good screening test for subsequent hypertension in pregnancy. Calcium supplementation is far superior to low-dose aspirin as an interventive approach in the prevention of hypertensive disorders of pregnancy among the two high risk groups studied. the manuscript.

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