

## Analysis of Causative Factor Contributing to Recurrent Neural Tube Defects : A Case Report

**Margaretha Claudhya Febryanna**

*Airlangga University School of Medicine, Indonesia*

Neural tube defects (NTD) become a concern in developing countries, with rare recurrence risk 2-5%. Folate and cyanocobalamin deficiencies are the common cause of NTD, while other causes are MTHFR enzyme mutation and the presence of Maternal Serum Folate Receptor Auto-antibodies.; Case Description: A multigravida (GIV P3001), 35 year old mother having anencephalic babies on second and fourth pregnancy was examined at antenatal clinic Dr. Soetomo Hospital. She was tested negative for TORCH, Ultrasound examination revealed positive Frog sign, cerebellum located outside cranial lobe with cervical spine defect to upper femoral region. Termination of pregnancy was performed, a female 300 gram stillbirth baby was delivered. Open upper cranium was observed with intact brain structure and non closure of cervical spine. After postpartum period, maternal serum folate and cobalamin level were observed within normal values. Maternal serum homocysteine levels were also observed. MTHFR enzyme has a critical role at converting methyltetrahydrofolate to active tetrahydrofolate, and converting homocysteine serum to

methionine used for protein synthesis. The mutant MTHFR C677T have 30% lesser converting function in methylation chain. The decrease of this conversion in methylation process resulting in increased unconverted homocysteine serum level accumulation. The serum of maternal NTD's pregnancy contain Folate Receptor Auto-antibodies that binds to folate receptor and blocking cellular folate uptake. Conclusion : Mother with history of NTD pregnancy should encourage to take routine daily 400-800 mcg folic acid supplementation, routine antenatal care is mandatory, early ultrasound examination should be performed for monitoring and diagnosis.

Biography: Margaretha Claudhya Febryanna, has completed her MD at the age of 24 years from Airlangga University, then worked for four years in Bojonegoro, East Java as primary doctor in Public Health Centre and now continue her study as the resident of Obstetric and Gynecology in Airlangga University, Dr. Soetomo Hospital, a tertiary hospital in Surabaya, Indonesia.