Serum Folate Levels in Pregnancies Associated with Neural Tube Defects

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Serum folate levels in early pregnancy in 32 women whose pregnancies resulted in babies affected by neural tube defects (NTD) (anencephalus and spina bifida) were compared with values from a random sample of 395 women with normal pregnancies acting as controls.

The prevalence of deficient (<2.0 ng/ml: 21.3% NTD cases and 19.3% controls) and low (2.01–2.7 ng/ml: 12.5% NTD cases and 16.9% controls) folate levels were not significantly different in the two groups. Our results, which we based on a much larger series of NTD cases than previous studies, question the view that folate deficiency is involved in the causation of these defects. Further basic research is required to clarify this issue. Our findings also underline the importance of the randomized clinical trials now under way in Ireland and under the auspices of the British Medical Research Council to determine whether supplementation with folic acid or other vitamins around the time of conception can prevent the recurrence of NTD.