Maternal diet and medulloblastoma

It has been suggested that the occurrence of some brain tumours in children might be related to the mother’s exposure to certain substances especially nitrosamines and other N-nitroso compounds in the diet. A recent paper from America (Greta R Bustin and colleagues, New England Journal of Medicine 1993; 329: 536-41) does not support the nitrosamine hypothesis but points to several possible dietary factors.

This case-control study concerns children under 6 years of age with primitive neuroectodermal brain tumours 90% of which were medulloblastomas. Both case and control parents were subjected to lengthy telephone interviews. Maternal dietary factors that appeared to be associated with a reduced risk were: fruits and fruit juices (odds ratio 0-28, p=0-003), vitamin A (0-59, 0-03), vitamin C (0-42, 0-009), nitrate (0-44, 0-002), and folate (0-38, 0-005). Certain supplements taken during pregnancy were also associated with decreased risk: iron (odds ratio 0-43, p=0-004), calcium (0-42, 0-05), vitamin C (0-35, 0-04), and multivitamins during first six weeks of pregnancy (0-56, 0-02).

The protective effects of folate and of early pregnancy multivitamins did not apply to the mothers of children who had astrocytomas whereas most of the other food factors appeared to protect against each tumour type. The authors suggest that this means that recall bias is an unlikely explanation in the case of folate and multivitamins but could have affected the results as regards the other food factors. They also point to the obvious and interesting fact that folate and multivitamins are the very factors that have been shown to be protective against neural tube defects and are not slow to suggest that primitive neuroectodermal tumours and neural tube defects may not be, biologically speaking, a thousand miles apart. It would not be too difficult to question the telephone methodology but the results are certainly interesting. Will anybody be able to organise a big enough prospective interventional study along the lines of the neural tube defect studies?

I’ve got mixed feelings about telephone surveys. Everybody could get onto the bandwagon. If this sort of thing catches on we’ll never again be safe in the bath. I never thought anything would induce me to buy an answering machine, but now I don’t know.

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