

a fact that the pubertal spurt may improve not only auxology but also the underlying jejunal pathology. Therefore it is very difficult to analyse auxology of children in such a period. The number of the investigated patients is so impressive that it would be possible to analyse separately those patients who had adhered to a gluten free diet and those who had not complied with this regime.

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## Leukoencephalopathy after prophylactic radiation for leukaemia in ataxia telangiectasia

Sir,

In their short report, Eyre and her colleagues remind readers of the possible harmful effects of therapeutic doses of radiation treatment and tumour chemotherapy in patients with ataxia telangiectasia.<sup>1</sup> Although the radiological appearances in their patients seem consistent with a diagnosis of treatment induced encephalopathy, is it certain that these findings were not those of ataxia telangiectasia itself? What are the findings on computed tomography in children over 5 years with 'uncomplicated' ataxia telangiectasia.

Assuming that this objection can be countered, I wish to challenge the contention, at the end of the report, that '... in children with acute lymphoblastic leukaemia prophylactic cranial irradiation and intrathecal methotrexate should be either withheld or given in reduced dosages'. This recommendation, as far as radiation treatment is concerned, is correct but for methotrexate is misleading and potentially mischievous, for the following reasons: Eyre *et al* claim that 'histological examination showed features diagnostic of a *chemoradiation induced* leukoencephalopathy' (my italics); however, so far as I am aware, there is no evidence in the literature that radiation treatment induced and radiation treatment/chemotherapy induced damage in ataxia telangiectasia are histologically distinguishable. Radiation treatment is an acknowledged cause of cellular damage in ataxia telangiectasia, both 'in vitro' and 'in vivo',<sup>2</sup> whereas only a few drugs in clinical use—for example, bleomycin<sup>3</sup>—have been implicated. 'In

vitro' data for other drugs is not readily available but children with ataxia telangiectasia have been reported to tolerate systemic methotrexate/6-mercaptopurine treatment in normal doses.<sup>4</sup> It would be interesting, in the Newcastle case, to know the temporal distribution of the reported 'gaps and reductions' in methotrexate/6-mercaptopurine treatment. If most occurred during the first year of treatment, rather than the second, it may be that lingering radiation treatment induced DNA damage to bone marrow in the craniocervical area, rather than chemotherapy, was blameworthy. A possible increase of vinca-alkaloid induced neurotoxicity has been noted in one report, but is not mentioned in others.<sup>4</sup> This report, which includes a literature review, also contains the specific statement 'No adverse effects from monthly intra-thecal methotrexate were noted in our patients'.

Although ataxia telangiectasia is itself very rare it is relatively more common in the selected group of children who develop acute lymphoblastic leukaemia or malignant lymphoma. While it is clear that radiation treatment must be given in reduced dosage—if at all—to patients with ataxia telangiectasia,<sup>2</sup> and though vincristine is still 'sub judice' it would be unfortunate if intrathecal or systemic methotrexate (or systemic 6-mercaptopurine, asparaginase, or anthracycline) doses were automatically scaled down or omitted. For children with ataxia telangiectasia and acute lymphoblastic leukaemia or lymphoma, the likely outcome would be an increased relapse rate. In many countries children's cancer treatment is now coordinated by national children's cancer study groups. Specific treatment recommendations for children with ataxia telangiectasia and malignancy are needed and could be publicised by these groups (in this country, the UKCCSG).

Incidentally, the terms 'central nervous system prophylaxis' and 'maintenance treatment', as used in the article, are inaccurate and archaic and should be abandoned.<sup>5</sup> 'Central nervous system-directed treatment' and 'continuing treatment' are preferred alternatives.

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Drs Eyre, Gardner-Medwin, and Summerfield comment:  
 Dr Pritchard's points are important ones and we very much agree with his main premise that no form of chemotherapy



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