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Interferon alpha-2a and 'alarming haemangiomas'

Haemangiomas (see *Archivist* 1992 p 723) are said to occur in some 10% of term babies and over 20% of extremely premature babies. Complete resolution occurs in over 50% by the age of 5 years and over 70% by seven years. 'Alarming haemangiomas' is a term that has been used to describe those which involve internal organs such as the liver, those which impose on vital structures such as the eye or the airway, those which are big enough to cause high output heart failure, and those which cause platelet sequestration (Kassabach-Merritt syndrome). Such lesions are often treated with high dose steroids but response is not assured. In one study response was excellent in 30%, doubtful in 40%, and nil in the other 30%. For the most 'alarming' lesions mortality rates of more than 30% are quoted so clearly there is a need for more effective treatment.

During trials of interferon alpha-2a in patients with AIDS it was noticed that Kaposi's sarcoma, a vascular tumour, often regressed. This led to several reports of childhood haemangiomas apparently responding to this treatment and a recent paper from Boston published in the *New England Journal of Medicine* (R Alan B Ezekowitz and colleagues, 1992; 326: 1456-63) describes the effects of treating 20 children, all of whom had haemangiomas that were a threat to life or vision and had been treated unsuccessfully with corticosteroids. The children ranged in age from 3 weeks to 2 years at the start of treatment. Ten had destructive lesions of the neck or face or airway obstruction. Three had lesions affecting the eye, four had Kassabach-Merritt syndrome, and three had visceral lesions involving the liver, the heart, or the brain.

Interferon alpha-2a was given by subcutaneous injection at a dose of up to 3 million units/m² of body surface area daily for between one and 13 months. One child with Kassabach-Merritt syndrome failed to respond and died at the age of 3 months and one with lesions affecting the eyelids had only 20% regression in one lesion. The other 18 children all showed over 50% reduction in the size of the lesions after treatment for between two and 13 months. In four the lesions regressed completely for between two and 13 months. In the three patients with Kassabach-Merritt syndrome whose coagulopathy responded it did so at five, seven, and 10 days after starting treatment with interferon alpha-2a. One child was treated for 32 weeks and had a normal platelet count and a 50% reduction in the size of the lesion but two weeks after the treatment was stopped the platelet count was $6.0 \times 10^9/l$ and the haemangioma began to grow again. Within three days of restarting treatment the platelet count was normal and the lesion began to regress again. All the patients had some fever in the first week of treatment and one developed transient neutropenia. One had some necrosis of the skin over the lesion. No long term toxicity was noted on follow up for between five and 30 months (mean 16 months) after stopping treatment.

Although this was an uncontrolled trial the authors present convincing evidence that the treatment worked. It seems very unlikely from the known natural history of these lesions that such results could have occurred spontaneously. These 'alarming' lesions are not common but this work appears to offer an exciting new treatment prospect.

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