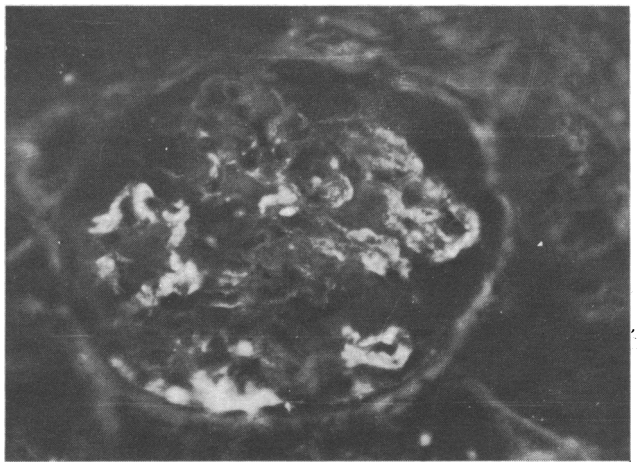

Renal biopsy specimen, case 2. Mesangial deposits of IgA largely confined to the mesangial regions with some segmental variation (FITC-labelled anti-IgA. ×300.)

Comment

Tumours may give rise to circulating immune complexes, and tumour-specific antibodies and antigens have been found in these complexes.[2-4] It has been suggested that Henoch-Schönlein purpura is mediated by immune complexes containing IgA,[5] and the condition may have occurred in our patients as a result of a carcinoma, which, acting as a source of new antigens arising at an endothelial surface, provoked an IgA response. That the renal lesion in case 2 resolved on resection of the tumour would support this assumption, and there is no evidence of another source of antigen in either case. That only one episode of purpura occurred in each case may be due to factors in host or tumour which resulted in only a transient IgA response of suitable quality or quantity for soluble immune complex formation.

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[1] Cream, J J, *et al*, *Quarterly Journal of Medicine*, 1970, **39**, 461.
[2] Gagliano, R S, *et al*, *American Journal of Medicine*, 1976, **60**, 1026.
[3] Lewis, M G, *et al*, *Lancet*, 1971, **2**, 134.
[4] Costanza, M E, *et al*, *New England Journal of Medicine*, 1974, **289**, 520.
[5] Trygstad, C W, and Stiehm, E R, *Pediatrics*, 1971, **47**, 1023.

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Menarcheal age in the disabled

Studies among normal populations have shown multifactorial influences on the age of menarche (economic, nutritional, geographical, social, and weight). Nevertheless, few studies have considered the mean menarcheal age (MMA) in handicapped girls other than the blind. We describe such a study.

Subjects, method, and results

Blind, deaf, and physically handicapped girls attending special schools in England and Wales completed forms stating the date of birth, particulars of disability, and date of first menstruation. Girls attending schools for physically handicapped had a heterogenous collection of severe disabilities including neural tube deformities, cerebral palsy, spasticity, epilepsy, blood dyscrasias, asthma, and cardiac lesions.

MMA of girls attending special schools on list 42 of the Department of Education

Disability	MMA	Significance*	No of girls
Neural tube defects	10·46 ± 0·03	0·001	37
Abnormalities before 16/52 fetal life	10·83 ± 0·16	0·001	57
Intrauterine rubella	11·69 ± 0·03	0·001	11
Physically disabled	11·70 ± 0·01	0·001	185
Epilepsy	11·71 ± 0·15	0·001	23
Retrolental fibroplasia	11·93 ± 0·13	0·002	18
Retinoblastoma	12·04 ± 0·09	0·001	10
Asthma	12·05 ± 0·05	0·001	7
Blind	12·14 ± 0·31	0·05	97
Deaf	12·21 ± 0·04	0·001	205
Cerebral palsy	12·58 ± 0·16	0·05	25
Congenital glaucoma	13·53 ± 0·07	0·005	8

*Students *t* test against normal London schoolgirls.

The MMA was calculated by the probit method, as recommended by Tanner.[1] The table compares the MMA of normal London schoolgirls at 13·1 years with the earlier MMA of the blind, deaf, and physically handicapped groups. The MMA was particularly early among those with neural tube deformities, abnormalities arising before the 16th week of fetal life, and intrauterine rubella, but a late MMA was found among those with congenital glaucoma. We appreciate that some of the disease groups contained small numbers and further studies are indicated.

Comment

The menarche represents the onset of sexual maturity in girls. In normal populations the MMA varies from 12·4 in Cuban negroes to 18·8 in the Bundi tribe of New Guinea.[1] Precocious puberty is recognised to occur among those with disease or anomalies of the central nervous system and we have confirmed that girls with neural tube deformities had a MMA of 10·46. Burrow *et al*[2] noted that girls exposed to intrauterine radiation from the atomic bomb at Nagasaki had their MMA slightly delayed, but those whose irradiation occurred during the first trimester of pregnancy had an earlier menarche compared with those irradiated in the second and third trimester.

Bellone[3] found a delayed MMA in infants with a birth weight below 2500 g. Nevertheless, in this study the 18 girls with retrolental fibroplasia due to prematurity and exposure to high oxygen concentrations in the neonatal period had an early MMA at 11·9. The earlier MMA noted among the blind has been attributed to the deprivation of light or light perception,[4] but the early MMA in other groups of handicapped girls suggests that light is not the only relevant factor. Possibly the administration of steroids to girls with congenital adrenal hyperplasia may delay the menarche,[5] but the seven girls whose asthma was of such severity that they required education at special schools had an early MMA at 12·05 and would have had steroid treatment (albeit intermittent and not necessarily from the neonatal period).

The finding of an early MMA among those attending special schools is of practical importance. In Great Britain normal children transfer to secondary schools at the age of 11, whereas girls at special schools transfer at 12, when the majority are already menstruating. In Britain there is little sex education at primary schools, which is when these handicapped girls need it most.

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[1] Hiernaux, J, *Eugenic Quarterly*, 1968, **15**, 12.
[2] Burrow, G N, Hamilton, H B, and Hrubec, Z, *Journal of the American Medical Association*, 1965, **192**, 357.
[3] Bellone, F, *Minerva Ginecologica*, 1975, **27**, 515.
[4] Zacharias, L, and Wurtman, R J, *Science*, 1964, **144**, 1154.
[5] Prader, A, Tanner, J M, and von Harnack, G A, *Journal of Pediatrics*, 1963, **62**, 646.

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