Correspondence


Intelligence and Retinoblastoma

Sirs,

Miss M. Williams' paper in the April 1968 issue of
your journal (p. 204) records evidence from control
material that children blind from retinoblastoma have
superior intelligence. The control material consisted
of two series, one being a group of children blinded from
cases other than retinoblastoma and the other a group
of sighted children from ordinary schools. Both these
control groups seem to have anomalous features.

The children blinded from causes other than retino-
blastoma were a heterogeneous group. More than a
third of the 74 cases had some useful vision (counting
fingers to 6/60) and a further unstated number had
perception of light, while 45 out of the 50 retinoblastoma
children were totally blind. Almost a third of the
control group were cases of retrolental fibroplasia—
an affliction of markedly premature children often
grossly affected mentally. The fact that these particular
children attended a school for blind children not
suffering from multiple handicaps does mean in this
context that they were not educationally subnormal.
It is unfortunate that such a high proportion of children
at risk mentally should be included in the control
material. On visual and mental criteria, the 74 non-
retinoblastoma children are hardly a convincing control
series.

The findings on the control material of sighted
normal children should give incontrovertible conclusions.
One is, however, puzzled by the fact that this group is
shown to rate in intelligence no higher than the group
of non-retinoblastoma children with their heavy pro-
portion of cases of retrolental fibroplasia. The question
arises whether the Williams test used, one designed for
visually handicapped children, does not put sighted
children at a disadvantage. This is indeed a point
raised by Miss Williams and dismissed as of no conse-
quency, but the findings are none-the-less puzzling.

Until there is better evidence than is as yet available,
most ophthalmologists would agree with the considered
opinion of Dr. R. Forrester whom Miss Williams
quotes. He gives succinctly the essential aspects of
the question at issue and will bear repetition:

'Of all the causes of blindness in young children the
retinoblastoma is the one in which the child is allowed
to avoid: (a) premature birth and its subsequent handi-
caps; (b) brain damage and its associated neurological
disorders—the disorder is confined to the eye; (c) many
of these children did have some sight for months or even
a year or more. This may just have been sufficient to
lift them over the impenetrable barrier which other
genetically blind children cannot surmount. The
scales are weighted in favour of the retinoblastoma
child just as they are weighted against the average
child with other forms of congenital blindness; I think
this explains the difference.'

One further point may perhaps be made. In the
context of educational achievement, the child blind from
retinoblastoma has a double advantage; not only did he
have good vision before becoming blind, but his blindness
when it came—generally quickly—was total and so
excluded delay in registration as blind and other half-
measures.

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We showed Professor Sorsby's letter to Miss M.
Williams, who commented as follows:

The question (paragraph 3 of Professor Sorsby's
letter) whether the Williams Test puts sighted children
at a disadvantage was answered by the research data—
the fact that an unselected sighted sample gained a
mean IQ on the Williams Test of just over 100.
(In confirmation of this, a recent German study showed
a close correspondence between the scores of sighted
children on the German edition of the Williams Test
and their scores on the German translation of the
Terman-Merrill Scale.) Thus it follows that the
non-retinoblastoma blind control—despite the expecta-
tion that it might be biased by the presence of
retrolental fibroplasia children—was not so biased;
it had the same average intelligence as an unselected
group of sighted children. Therefore, the difference
between the mean IQ of the retinoblastoma sample and
that of the non-retinoblastoma sample is not capable
of explanation solely on Dr. Forrester's quoted hypo-
thesis; they differed (i.e. the retinoblastoma children)
by about 17 points of IQ from a non-retinoblastoma
sample, from an unselected sighted sample, and from
the established norm of the Williams Test (derived from
a blind school sample of considerable size).

One is puzzled by this result, but the evidence does
not suggest any inferiority in the scores of the control
groups—IQ 100 is average. It does indicate clearly
the superiority of the retinoblastoma scores.

The number of controls who had perception of light
was not specified as there would have been little rele-
vance in stressing this. Any appreciable proportion of
cases with perception of light in the non-retinoblastoma
blind sample would have presumably given them an
advantage over the almost entirely totally blind retino-
blastoma group.

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