

CASE REPORT : INVERSE MARCUS GUNN PHENOMENON

Mary Carter

Presented in Adelaide, April 1974

Mrs. M.H., aet.73, developed a right Bell's palsy in April 1972, for which she received electrical treatment. She was seen some four months later by the ophthalmologist, who found that she showed an acquired right "inverse Marcus Gunn" phenomenon, thought to be due to aberrant regeneration of the facial nerve.

Duke Elder (1973) describes this under the heading "Aberrent Nerve Regeneration (Paradoxical Movements)". "During the recovery period of peripheral facial palsy the interesting phenomenon of Paradoxical Facial Movements, that is, unintentional and abnormal mass movements of the facial muscles, may present itself. When for example, the patient wishes to close his eyes, other muscles supplied by the facial nerve contract with unexpected and curious results, the mouth, perhaps, being drawn to one side. Conversely, movements of the lower facial muscles may be associated with a contraction of the orbicularis oculi so that when the mouth is opened, or on movements of mastication, the eye is closed. (Martin Amat's phenomenon) This reaction has been called the inverse Marcus Gunn phenomenon, but although such a term describes the actual movements involved, these do not constitute a trigemino-facial association but are due to events within the territory of the facial nerve itself."

It was found that when Mrs. H. was asked to close her eyes, her mouth was drawn slightly to one side with elevation of her upper lip; also, when asked to open her mouth or to make chewing movements, her eye on the affected side closed.

She was photographed while intentionally (1) opening her mouth widely, (2) closing it tightly, (3) moving her jaw to the right, and (4) to the left. Still photographs of the lip movements which accompany intentional closure of eyes are unfortunately not available.



Inverse Marcus Gunn Phenomenon : spontaneous eye movements occur when subject intentionally (1) opens mouth (2) closes mouth (3) moves jaw to right (4) moves jaw to left

At the time of examination, Mrs. H. had an exposure keratitis. She has been seen at regular three-monthly intervals as, in addition, she has glaucoma for which she is using regularly P.V. Carpine 4%.

Acknowledgements

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My thanks go also to the clinical photographers at the Royal Victorian Eye and Ear Hospital, and to the medical librarian for her help with references.

REFERENCE:

Duke Elder, S, & Scott, (1971) *System of Ophthalmology*, Volume 12, Henry Kimpton, London.

CASE HISTORY: "ALTERNATE DAY SQUINT" IN AN ADULT

Jan Magin

Presented in Adelaide, April 1974

In the alternate day squint of children, hitherto described, manifest deviation of one eye occurs only on alternate days. The case here described is one of constant convergent squint in an adult, in which the angle of deviation increased regularly on alternate days to become grossly disfiguring.

Mrs. A.O. aged 55, had worn glasses since aged 6 years, her present corrections and vision being:

right eye $-16.0/+3.0$, 6/60
left eye $-2.25/+0.50$, 6/5

she knew that a right convergent squint, recognised at 6 years, had probably been present all her life. It was cosmetically acceptable, and she only became aware of it when the deviation increased and made her close work uncomfortable.

Seen in the orthoptic clinic on 17.8.72, Mrs. A.O. told us that 3 years ago, the eye began to "turn" (i.e. the deviation increased noticeably)

at night and when tired,

12 months ago, the eye "turned" every 24 hours, and was "non-squinting"

for every alternate 24 hours,

recently, the pattern had altered to cycles of 48 hours squinting

and 24 hours non-squinting,

she became very depressed when the eye "turned" and felt "off balance", she had to cover the convergent right eye for close work on the "squinting" day,

A neurological examination, E.E.G. thyroid and blood tests (including cholesterol) had all been negative.

Orthoptic findings : "squinting day".

Cover test at 6 metres & at 1/3 metre : right convergent squint, approx. 60A

Ocular movements : poor abduction of right eye

Visual acuity : right eye 1/36, left eye 6/6

Synoptophore angle, fixing left eye : 30° (by reflections)

Visuscope : right eye fixing about 5° nasal to, and slightly above fovea,
left eye fixing centrally

Orthoptic findings : "non-squint day" 20.2.72

Cover test at 6 metres & 1/3 metre : right convergent squint, approx. 16A

Synoptophore angle, fixing left eye : $+12^\circ$ (by reflections)

Visuscope : as on previous visit

"Squinting days" were now becoming more frequent, and more uncomfortable.