MARCUS GUNN PHENOMENON WITH PARADOXICAL OCULO-PALPEBRAL MOVEMENTS*†

BY

HARI MOHAN, A. N. GUPTA, AND S. K. JAIN

Department of Ophthalmology, Irwin Hospital, New Delhi, India

FIG. 1.—Marcus Gunn phenomenon.

THE following case of congenital ptosis with Marcus Gunn phenomenon (Gunn, 1883) is interesting because of its unusual association with multiple paradoxical oculo-palpebral movements (Duke-Elder, 1952).

Case Report

An 18-year-old girl came for cosmetic correction of a congenital ptosis of the right upper lid with alternate divergent strabismus of about 15°. The Marcus Gunn phenomenon was also present (Fig. 1).

Details of other anomalies in the oculo-palpebral movements are given in the Table (opposite), and the nine positions of gaze are shown in Fig. 2.

FIG. 2.—The positions of gaze. See Table.

* Received for publication August 8, 1966.

† Address for reprints: 11B Ganga Ram Hospital, Marg, New Delhi 5, India.

TABLE
OCULO-PALPEBRAL MOVEMENTS IN THE NINE POSITIONS OF GAZE (FIG. 2)

Direction of Gaze		Right Eye	Left Eye
Primary Position		Ptosis upper lid Alternating divergent strabismus	
Looking Up	Straight	Ptosis upper lid No limitation of movement	Normal
	To right	Retraction upper lid No limitation of movement	Ptosis upper lid Limitation of movement
	To left	Improvement of ptosis Limitation of movement	Normal
Looking Down	Straight	Marked retraction upper lid No limitation of movement	Normal
	To right	Retraction upper lid	Normal
	To left	Marked retraction upper lid No limitation of movement	Normal
Looking Right	Fixing right	Retraction upper lid No limitation of movement	Ptosis upper lid No limitation of movement
	Fixing left	Retraction upper lid Slight upshoot	Retraction upper lid
Looking Left		Improvement of ptosis No limitation of movement	Normal

No surgical operation had so far been performed. The visual acuity in the right eye was 6/12, and 6/9 with -0.50 D cyl. axis 180° , and in the left eye 6/5. All laboratory investigations gave normal results.

Discussion

Abnormal retraction of a ptosed lid has been described in association with movements of the jaw muscles (Marcus Gunn phenomenon) or of other extra-ocular muscles. A paradoxical retraction of the upper lid on attempted abduction was described by Friedenwald (1893, 1896) and Wilbrand and Saenger (1900) in cases of congenital paresis of the sixth nerve, and by Jain (1958) after a Blaskovitz operation for ptosis.

A similar retraction of the upper lid on looking down (pseudo-Graefe phenomenon) was described by Martyn (1919), Waardenburg (1932), and Jain (1957), and on occlusion of the other eye by Jain (1957, 1958).

The present case of congenital ptosis shows Fuchs's phenomenon of retraction of the upper lid on abduction and the pseudo-Graefe phenomenon with jaw-winking. There is retraction of the ptosed right lid and simultaneous ptosis of the sound left lid on fixing with the right eye and looking right (Fig. 2). But on fixing with the left eye and looking right, both upper lids retract. This particular sensory-motor association, which does not appear to have been reported so far, seems to be a variation of the paradoxical lid retraction which occurs on occlusion of the sound eye.

This unique multiplicity of paradoxical oculo-palpebral movements possibly points to the existence of an internuclear lesion.

REFERENCES

- DUKE-ELDER, S. (1952). "Text-book of Ophthalmology", vol. 5, pp. 4686-4692. Kimpton, London.
- FRIEDENWALD, H. (1893). *Arch. Ophthal. (N.Y.)*, **22**, 349.
- (1896). *Bull. Johns Hopk. Hosp.*, **7**, 134.
- GUNN, R. M. (1883). *Trans. ophthal. Soc. U.K.*, **3**, 283.
- JAIN, N. S. (1957). *Brit. J. Ophthal.*, **41**, 247.
- (1958). *Ibid.*, **42**, 242.
- MARTYN, H. S. (1919). *Ibid.*, **3**, 310.
- WAARDENBURG, P. J. (1932). "Das menschliche Auge und seine Erbanlagen", p. 102. Nijhoff, The Hague.
- WILBRAND, H., and SAENGER, A. (1900). "Die Neurologie des Auges", vol. 1, p. 56. Bergmann, Wiesbaden
(Cited by Duke-Elder, 1952).