

Formed Visual Hallucinations: a Symptom of Cranial Arteritis

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Two cases of cranial arteritis are described in which the presence of formed visual hallucinations has been a significant factor in their clinical presentation and course. The purpose of this paper is to draw attention to this symptom—not previously reported—and to suggest a possible aetiology in view of the known pathology of cranial arteritis. It is now well recognized that the disease process, a panarteritis, may involve not only the superficial temporal branches and other divisions of the external carotid but also the internal carotid tree, and the subclavian, coronary, renal, mesenteric, pulmonary, and peripheral vasculature. A full consideration of the pathology, incidence, and symptoms of cranial arteritis will not be dealt with in the present report, since these are well described in previous publications (Horton, Magath, and Brown, 1932; Parsons-Smith, 1959; Simmons and Cogan, 1962).

Case 1

A 79-year-old woman presented in the ophthalmic department on 17 March 1966 with deterioration of vision in the left eye of two weeks' duration. Clinical examination revealed atrophy of the left disc, arterial attenuation, no haemorrhages or exudates. The right disc showed early blurring of the nasal margin. Visual acuity: right, 6/18; left, counting fingers. B.P. was 180/80. Skull x-ray examination showed nothing abnormal. E.S.R. was 101 mm./hr.

Further questioning revealed a history of severe headaches associated with tenderness over the temples. She had been seen one month earlier at a dental hospital because of severe pain on chewing. Subsequently she referred to formed visual hallucinations of a most unpleasant nature which had been present for approximately two weeks before her ophthalmic attendance.

Prednisolone 30 mg. brought an immediate improvement in her general condition, and the visual hallucinations disappeared. Treatment was gradually reduced to nil on 25 July, when the E.S.R. was steady at 5 mm./hr. and she was symptom-free.

On 13 November she returned complaining of malaise and a recurrence of disturbing visual hallucinations. Visual acuity: right, 6/18; left, counting fingers. Central field right showed marked inferotemporal field loss with some generalized constriction. The right disc was now thought to be atrophic. B.P. was 160/70; serum vitamin B₁₂, 307 µg./100 ml.; and E.S.R. 82 mm./hr. Applanation pressures right and left, 20 mm.

A temporal artery biopsy was not thought necessary in view of the previous response to treatment, as regards both symptoms and the diminution in the E.S.R. Prednisolone 30 mg./day orally was begun with immediate loss of the formed hallucinations, which up to the time of writing had not recurred on a continued dosage of 5 mg. of prednisolone b.d.

Formed visual hallucinations preceded both emergency ophthalmic attendances. For two weeks before the first visit the patient experienced images of menacing people and flapping brightly coloured curtains which promptly disappeared as soon as systemic corticosteroid therapy was begun. The second visit after four months without corticosteroids was preceded by hallucinations of two days' duration; these took the form of doors which opened out towards her, the doors in fact being quite real; also the patient "saw" a crowd of small children round her whenever she turned her head to either side; treatment with corticosteroids abolished these hallucinations, which have not since returned. Improvement in visual acuity did not occur.

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Case 2

A 73-year-old woman was admitted as a medical emergency on 19 February 1963 with bilateral severe visual loss and a diagnosis of possible intracranial space-occupying lesion. One week before admission she presented in the ophthalmic department with sudden loss of vision in the right eye of four days' duration. Papilloedema of the right disc was noticed at this first attendance. A blood pressure of 176/118 was found and she was referred for medical opinion, a hypertensive cause being suspected. The same day sudden loss of visual acuity in the left eye was experienced. On her admission to the ward a past history of three months' occipital headaches, bilateral earache, and jaw ache was obtained.

The clinical findings were as follows. Visual acuity: right, counting fingers; left, counting fingers; fields limited to supero-temporal quadrants on confrontation; bilateral papilloedema, no haemorrhages or exudates; B.P. 170/76.

Investigations: E.S.R. 20 mm./hr. Serum cholesterol 310 mg./100 ml. Serum electrophoresis normal. Skull and chest x-ray pictures normal.

A diagnosis of cranial arteritis was made and temporal artery biopsy obtained which was reported on as follows: "There is an inflammatory reaction with giant cells in the vessel wall and the elastic tissue is partially disrupted: A 'kink' noted on naked-eye examination of the vessel shows filling of the lumen by organized thrombus which is beginning to recanalize."

The patient began treatment with 60 mg. of prednisolone a day. No improvement in visual acuity occurred. She has now terminated corticosteroid therapy. At no time has the E.S.R. exceeded a level of 20 mm./hr.

Formed visual hallucinations began three months after ocular involvement and have continued for four years. Originally these consisted of three distinct forms: (a) three blue and white meat dishes arranged vertically; (b) bunches of brightly coloured flowers situated on either shoulder, which swayed as she turned her head; and (c) black men outside the window. The first form of hallucination (a) persists, though the frequency of appearance has markedly decreased.

On examination on 23 March 1967 she was noted to have visual acuity: right, hand movements; left, hand movements; bilateral atrophic discs; applanation pressures right and left, 18 mm.

Discussion

The incidence of intracranial complications of cranial arteritis would appear to be small, judging from the lack of published evidence to the contrary. Meadows (1954) described the cases of two patients with dementia and one with progressive failure of memory for two years preceding the onset of blindness. Symptoms of vertigo, tinnitus, and loss of hearing have been described (Font, 1960) as occurring in this condition, the cause being presumed to be occlusive involvement of the internal auditory artery. Parsons-Smith (1959) described a series of 50 cases, four of which showed field loss (the type of field loss is not specified) due to cerebral lesions consistent with cranial arteritis.

The symptom of formed visual hallucinations experienced by the above two patients is assumed to be due to involvement of the cerebral cortex, particularly the temporal lobes, by this same occlusive vascular condition.

The onset and duration of the symptom vary greatly in the two cases. Case 1 demonstrated it as a premonitory symptom,

associated initially with loss of unilateral vision and subsequently substantial loss of field in the unaffected eye, relieved by the administration of systemic corticosteroids: the hallucinations were a very temporary effect of cortical ischaemia relieved by prednisolone. In Case 2 the hallucinations occurred after an interval of two months, following severe bilateral loss of visual acuity, with no relief from corticosteroid therapy; in this particular case it must be assumed that the occlusive process has been permanent. The time of onset of this symptom after ocular involvement is of interest since it corroborates previous descriptions in that the generalized effect of cranial arteritis may follow ocular involvement by an interval of one to six months.

The rarity of visual hallucinations in the blind has been noted by Freeman and Williams (1953) and it should be stressed at this stage that the formed hallucinations experienced by these two patients in no way resemble the psychic disturbances of postoperative cataract patients in which the imagery promptly disappears on uncovering the eyes. Walsh (1957) is of the opinion that formed visual hallucinations are due to involvement of the temporal lobe, and cites both experimental and clinical evidence to substantiate this point. A differing view is held by Weinberger and Grant (1940), who believe that no such strict localization exists within the cerebral hemispheres, such hallucinations representing psychological phenomena involving the total integrative activity of the mind, the formed imagery depending on constitutional factors, not on cortical psychic organization. In his summary, Walsh prefers to accept the localization of such phenomena to the temporal lobe, founded on the available experimental and clinical evidence. Both

patients whose cases have been described show marked complacency to their respective visual symptoms, and it is postulated that this euphoria may also be connected with the intracranial occlusive episodes of cranial arteritis.

Summary

Two cases of cranial arteritis, both manifesting formed visual hallucinations as a disturbing symptom, are described. The mode of presentation differed; in one case this symptom preceded the onset of unilateral loss of visual acuity and subsequently gave warning of impending visual loss in the other eye, whereas in the second case this symptom followed the occurrence of bilateral loss of vision. The subject of visual hallucinations and their possible relation to the known intracranial vascular pathology of this disorder are discussed.

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Effect of an Oral Contraceptive Immediately Post Partum on Initiation of Lactation

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Oestrogens are known to suppress lactation, and are often used for this purpose. The oral contraceptives currently available contain oestrogens and progestogens in varying doses. In some the progestin component itself has oestrogenic qualities (Paulsen, 1965), and treatment with this group might be expected to impair lactation to a marked extent. Rice-Wray (1964) reported that in about half of the lactating mothers she studied the milk yield was diminished by oral contraceptives. This seems to be a dose-dependent effect, for Pincus (1965, p. 262) noted that the percentage inhibited decreased from 77 to 15 as the norethynodrel dose was reduced from 20 to 2.5 mg./day. Satterthwaite (1964) thought that a 2.5-mg. dose of norethynodrel did not significantly affect lactation, but in her study there were no controls and the small number of patients makes generalization difficult.

Of oral contraceptive preparations currently available Norinyl-1 (norethisterone 1 mg. and mestranol 0.05 mg.) has the lowest total steroid content. Furthermore, norethisterone is antioestrogenic in some of its effects. In view of Rice-Wray's findings and Pincus's suggestion of a dose-dependent effect it seemed important to test the action of Norinyl-1.

The immediate post-partum period is the most convenient time to advise on contraception, and if the agent can be prescribed at this time follow-up problems are considerably reduced. This aspect is of prime importance in the developing

countries, where the immediate post-partum period may be the only opportunity for contraceptive treatment, and where breast milk may be the infants' only source of protein.

Most studies of the effects of oral contraceptives on lactation have not been controlled, and since many factors influence lactation this reduces their value.

Methods

All mothers delivered in the obstetrics unit of St. Joseph's Hospital, Copenhagen, during the period July-September 1966 entered the trial, with the exception of (1) mothers who it was decided, before or immediately after delivery, should not attempt to breast-feed, and (2) mothers who gave birth to infants weighing less than 2,000 g.

A total of 451 women took part in the trial. Tablets were supplied by Syntex Pharmaceuticals Limited, England, in small containers marked only with a code number and containing 21 tablets. The code was not disclosed in Denmark until the trial had been completed, but it was known that some of the tablets were Norinyl-1 and others were inert placebo tablets. Each woman included in the trial received one tablet daily from the day after the birth of her child until discharge from hospital on the eighth day.

The relevant details of each case were recorded on a form which included the mother's previous history of breast-feeding, the code number of the tablets taken, and the baby's birth

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