

SPONTANEOUS ORBITAL HAEMORRHAGE

BY

FRANK W. LAW

London - England

If one uses a title such as the above it is incumbent upon one to define exactly what it means. The purpose of this paper is to consider the occurrence of haemorrhage within the orbit not caused by local trauma and not referable, as far as can be ascertained, to any constitutional causative condition. Its justification consists in the rarity of the condition; in a long career the writer has personal experience of only three cases. It is unfortunate that the notes of one of these three cases are not available; it was, however, identical in all essential details with the two to be presently described.

It is likely that a true spontaneous haemorrhage, using the phrase in the literal sense, never occurs. Even when the expression is used in the conventional sense the occurrence is of extreme rarity, as Whitwell (1956) points out. He describes the case of a 63 year old woman, who suddenly developed a severe headache and right proptosis. No systemic abnormality was discovered, the orbit was evacuated of blood at operation, and recovery was rapid and complete. Whitwell quotes two similar cases, apparently truly spontaneous Wheelers (1937) second case, in a man of 45, and that of Roberts (1955) in a man of 25. Most, if not all, of the other cases to which he refers would appear to have some systemic cause to which the occurrence could be referred. Thus, Wharton Jones (1863) described the event in a young woman dying of uraemia and Priestly Smith (1888) a similar occurrence in a haemophiliac. Awerbach (1933) described two cases which he called spontaneous, but they were associated with scurvy and haemophilia respectively.

In the Graefe-Saemisch Handbuch Birch-Hirschfeld (1930) reviews the literature and reports one personal observation. His collection appears to refer to cases associated with some causative general condition, such as haemophilia, scurvy, blood dyscrasia, renal and vascular disease, or some gynaecological or obstetrical event. Spangol (1964) described an orbital haemorrhage without local trauma in a 46 year old female; 1 ml. of blood was aspirated from the orbit, and vision was unharmed. He attributes the cause to preclimateric hormonal influences. Kubik (1963) described it in a man of 50 years of age, with moderate hypertension (200/100). Pavia's case (1962) was unusual on account of the recurrence which the patient suffered. He was a man of 38; the blood coagulation time taken on the occasion of his first haemorrhage was 10 minutes. Recurrences occurred subsequently at intervals of three years, five years and eleven years. The cause was said to be increased capillary permeability and metabolic disturbance affecting coagulation time.

The two cases here presented were similar in that they were both fit young men, and in each case the haemorrhage was at least preceded, if not actually caused, by moderate physical exertion which in such subjects would not ordinarily be looked upon as a potential cause of vascular catastrophe. The first patient was in his early thirties and may truly be described as an athlete of unusual physical strength and fitness. In the preceding decade he had been an outstanding oarsman, and had taken part in this strenuous pursuit for years at regattas and in University rowing. For three successive years he rowed in the Oxford boat in their annual race against Cambridge. On leaving the University he took up rugby football, played for one of the most prominent clubs in the country and was given a Trial for the English team. His physical condition was therefore beyond reproach; he lived a very healthy life, and died in his seventies of carcinoma of the lung. At the time in question he was waiting in the boathouse, with the Oxford crew, for the moment to arrive when they should get into their boat and take to the water for the annual race against the sister University; the time of the year was, as usual, early spring; the weather was cold and he was suitably clad as a spectator. Such a moment is charged with some tension, and a nervous atmosphere is always apparent; by way of creating a diversion he walked into the gymnasium and, taking hold of the rings, did a slow turn and landed quietly on his feet. He immediately felt an impulse in his right orbit; his eye was rapidly and considerably displaced forwards, and he saw double. Despite his consternation he followed the race in the launch, overcoming the unusual embarrassment of seeing four crews by the simple expedient of covering the affected eye with his hand. On consulting the writer that evening, the eye was found to be proptosed some 10 mms. and a little depressed; movements were limited, and diplopia was

present in all positions of gaze. Knowing his past history I did not take too serious a view of his trouble; I told him that in a day or two he would have a "black eye" that the eye would gradually recede to its normal position, that his diplopia would disappear and ocular movements return to full, and that his sight would be unimpaired. All these prophecies were strictly fulfilled; I saw him seven times in the ensuing thirty years and noted no residual trouble from the occurrence at any time.

The other case was that of a young man in his late twenties, a resident medical officer in a London hospital, and son of one of the consultants to the hospital. Again he was a perfectly fit type; before the occurrence he had a mild infective hepatitis, but the serum bilirubin had returned to normal in a week. He was returning from a social occasion of a mildly convivial nature in his car, and leant over the back of the driving seat to retrieve a tool from under the back seat. He felt an impulse behind the right eye and took little notice of it; next morning the right eye was proptosed, there was a subconjunctival haemorrhage, and he saw double in all directions of gaze. The proptosis increased during the day; by the time I saw him at hospital considerable consternation had been caused to his father and colleagues as may be imagined, and many investigations were already in hand, including full blood examination, skull X-ray etc., all of which in due course proved negative. Vision was unimpaired, but there was some discomfort on ocular movement. Mainly on account of his family background, I admitted him to hospital for a few days. The proptosis subsided slowly but not quite completely; diplopia was sometimes noticeable subsequently on ocular deviation when he was tired. Three years later the condition recurred in very similar but milder fashion, this time following an attack of vomiting. Recovery was complete in two days. It is interesting to note that in the interval between the two episodes the subject had done an amount of flying with the Royal Auxiliary Air Force, including aerobatics, which sometimes involved subjection to "negative G" to the point of "red-out"; no harmful effects followed these experiences, and there was no residual effect other than that mentioned above in the subsequent 10 years.

Though in each of the cases described it is true that some exertion preceded the episodes, it is felt justified to describe them under the heading "spontaneous". It is interesting to speculate on the probable cause of such occurrences in healthy fit young men. Just as subarachnoid haemorrhage may occur unsuspected and unannounced in apparently fit people, often from a local congenital vascular weakness, so presumably could orbital haemorrhage occur. Opportunity is not provided for the investigation of such a possibility. Something of the kind may,

and indeed must, be operative; if so, it is strange that the event does not occur more often. It is further difficult, on such a supposition, to account for the recurrences which occur in this condition, and to explain why such episodes do not occur in other regions of the body. No great difficulty arises in considering the occurrence of orbital haemorrhage in the presence of predisposing general states, and the fact of exertion apparently being a factor in the two cases here described may provide some clue in the elucidation of an unusual condition.

SUMMARY

Two cases of orbital haemorrhage occurring in fit young men following mild exertion are described. The relevant literature is reviewed. Attention is drawn to the frequent existence of a predisposing general state, and its absence in the cases described.

REFERENCES

- WHITWELL (1956) *Brit. Jnl. Opth.* 40 250. April 1956.
- WHEELER (1937) *Arch. Opth.* (Chicago) 18 356.
- ROBERTS (1955) *Amer. Jnl. Opth.* 40 215.
- JONES T. WHARTON (1863) *Brit. Med. Jnl.* 1 453.
- SMITH PRIESTLEY (1888) *Roy. Lond. Opth. Hosp. Rep.* 12 70.
- AWERBACH (1933) *Ann. d'Ocul.* 170 863.
- BIRCH-HIRSCHFELD (1930) *Graefe-Saemich Handb. d. ges. Augenheilk.* 9 Abt. 1, Teil i. 898.
- SPANGOL (1964) *Klin. Monat. f. Augenheilk.* 145 600.
- KUBIK (1963) *Cs. Oftal.* 19 No. 4 267.
- PAVIA (1962) *Rev. oto-neuro-oftal.* (B. Aires) 37 7.

Thirty Six Devonshire Place
London, W, 1.