

Stertorous breathing in apoplexy and the management of the apoplectic state / by Robert Bowles.

Contributors

Bowles, Robert.

Publication/Creation

London : British Medical Association, 1881.

Persistent URL

<https://wellcomecollection.org/works/j3spa3sa>

License and attribution

This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.



Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
<https://wellcomecollection.org>

18
STERTOROUS BREATHING IN APOPLEXY,

AND THE

MANAGEMENT OF THE APOPLECTIC

STATE.

By ROBERT BOWLES, M.D.,

FOLKESTONE.


LONDON :

OFFICE OF THE

BRITISH MEDICAL ASSOCIATION,

'161A, STRAND.

—
1881.



Digitized by the Internet Archive
in 2019 with funding from
Wellcome Library

<https://archive.org/details/b30576751>

STERTOROUS BREATHING IN APOPLEXY, AND THE MANAGEMENT OF THE APOPLECTIC STATE.

IN the investigation of the causes of stertorous breathing in apoplexy, I found that they were mechanical, and could at all times be so changed as to alter altogether the nature of a case, and often to make the difference of recovery or death; and, moreover, that the principles involved applied not only to apoplexy, but to many abnormal conditions allied to it. The subject having been now before the profession for twenty years, one is surprised to find how little attention appears to have been directed to it in our medical schools. Younger members of our profession to whom I have spoken, certainly do not realise its importance; and yet the value of a knowledge of it in the management of the apoplectic state is far greater than bleeding, blistering, calomel, croton-oil, and the rest.

The removal of the causes of stertor so immediately changes the aspect of a case, that the question of blood-letting is at once solved in the clearest and surest manner. The truth is, two separate conditions of the apoplectic state have been jumbled together and treated as one: the cerebral affection, and the condition of suffocation consequent upon it. Stertor, in one sense, is but a croup in the pharynx, or apoplexy *plus* suffocation, as croup is laryngitis *plus* suffocation. We feel it necessary to relieve croup by a serious operation; whereas stertor is left to itself, although it may be relieved by merely changing the position of the body.

On referring to the literature of the subject, I have been astonished to find how difficult it is to draw any conclusions from the descriptions of the disease, or the treatment to be adopted. Authors are not agreed; and one of our most distinguished neurologists, in an article on Apoplexy, in a recent important work on medicine, with infinite labour, appears to arrive at the conclusion that, in apoplexy, we can know nothing, we can foretell nothing, and we can do nothing. This confusion arises in great measure from the stertorous breathing, converting all cases in which it is present into cases of apoplexy *plus* suffocation.

It is agreed that there are cases of apoplexy in which the face is pale, and the pulse small, and in which bleeding is not to be thought of, and also that there are cases in which stertor is not present; but I cannot, with all my diligence, find out from any works that have been open to me, whether these two conditions, that is, the pale face and the absence of stertor, were coexistent. There are no observations made by any author as to the position of the patient in the non-stertorous cases.

Suffocation, added to grave mischief in the brain, must of necessity affect not merely the symptoms and progress of cases, but also their

mortality. Those only who have observed the extraordinary change on the removal of suffocative stertorous breathing, can judge how the diagnosis and prognosis are affected by it, and, not less so, the treatment and morbid anatomy.

Most modern writers on apoplexy adopt the general views of Dr. Abercrombie, and naturally, from the broad division of cases into sthenic and asthenic, are disposed to bleed in the former, and to avoid it in the latter; whereas, if we look upon the hard slow pulse as the result of the heart labouring to overcome an obstruction in the lungs (suffocation), we shall at once see that our first duty is to remove this obstruction, and thus simplify the case.

Heberden and Fothergill were opposed to bleeding in any case, and the latter has made some curious suggestions which pertain to the subject of this paper. He says that "even the hard, full, and irregular pulse, which seems imperatively to call for a very free use of the lancet, is often an insufficient guide, since it may be that struggle which arises from an exertion of the *vires vitæ* to restore health". From what has already been said, you will readily guess that I should say: "This strong pulse arises from an exertion of the *vires vitæ* to overcome vascular obstruction caused by gradually increasing suffocation."

Niemeyer, more than others among recent authors, has attempted to be systematic, and to clear away the confusion attached to apoplexy; but, like others, he fails, from not discriminating between the apoplexy and the suffocation. He believes that the shock and oppression of the apoplectic state arise from anæmia of the brain-substance, from sudden compression of the cerebral capillaries; this anæmia is always seen after death, and is shown during life by the very symptom which has always had a contrary interpretation—"a remarkable pulsation of the carotids". This, instead of being a sign of increased pressure of blood to the head, really indicates that the flow of blood into the skull is obstructed "by the space", he says, "in the skull being affected, so as to prevent the escape of blood from the afferent vessels"; throwing the blood back, as it were, into the carotids.

As a consequence of this view, under the head of treatment, he says: "It is evident that, under some circumstances, venesection is a very useful remedy; under others, it is very injurious, and the indications for it may be very exactly given. In order that as much arterial blood as possible may enter the brain, we must try to facilitate the escape of venous blood, without, however, diminishing the propelling power too much" (what a plea is this for removing suffocation); then he continues: "If the impulse of the heart be strong, and its sounds loud; if the pulse be regular, and no signs of commencing cedema of the lungs exist, we should bleed without delay. If, on the contrary, the heart's impulse be weak, the pulse irregular, and the rattling in the trachea has already begun, we may be almost certain that bleeding would only do harm, since the action of the heart, which is always weakened, would be still more impaired, and the amount of arterial blood going to the brain would thus be still more decreased."

The simple relation of some of my early cases will best illustrate what usually happens in a case of apoplexy, and how it may best be managed.

CASE I.—In October 1863, Miss B. was seized with apoplexy. On my arrival, there was a partial return to consciousness, and the left side was found to be paralysed; there was pharyngeal stertor when in the recumbent posture, and she appeared uneasy when placed on her right side; she was therefore placed on her left, when the stertor ceased. A blister

was applied to the nape of the neck, and she remained in this position for nine days. She was now better, and spoke to me. Fearing a bed-sore, I desired the nurse to change her position, by turning her from her left to her right side. Soon after this was done, she was distressed for breath, and the countenance became livid. On my arrival, I found the difficulty of breathing gradually increasing; the blistered surface, as well as the ear upon which she had lain, of a dark purple hue; and the pulse, which had before been weak and irregular, full and bounding. There were large mucous *râles* over the whole chest; she was quite unconscious, and death from suffocation was imminent.

Finding that these symptoms supervened upon the change of position, I had her replaced upon her left side, and immediately the pulse sank, the mucous stertor ceased, the breathing was relieved, the lividity of countenance passed away, and the blistered surface, which had been almost black, resumed a bright cherry-red colour. This additional shock, however, proved too much for her, and she died the same day, peaceful and conscious.

The salient points of this interesting case are these: 1. Pharyngeal stertor ceased when the patient was placed on her side; 2. There was a slow but gradual improvement subsequently to this; 3. Mucous stertor and imminent death supervened when she was changed to the opposite side; 4. Instant relief followed on resuming her original position; 5. A return to consciousness was coincident with the cessation of stertor; in other words, with the removal of the respiratory difficulty.

On a careful examination of the chest after she became quiet, I found all *râles* slowly fade away from the right side, or that which was uppermost, and the natural breathing return; but the left lung, which had been dependent throughout, was dull on percussion, and deficient in respiratory murmur.

The explanation now became clear, viz., that the dependent lung had become filled with some mucous fluid, and that, on changing the side, the fluid by gravitation was finding its way across the trachea to the opposite lung; but, in doing so, it had been churned into foam by the ingoing air, giving rise to mucous stertor; and this foam, by filling up the larger bronchial tubes, was quickly causing suffocation, with all its usual results.

As a point of management, then, in cases of apoplexy, it would appear necessary to keep the patient on one side, and not to change it; but which should this be? Healthy people, when lying on the side, breathe chiefly with that side which is uppermost, for the intercostal and other thoracic muscles of the lower side are fixed between the weight of the body and the bed, and the breathing of this side is almost entirely diaphragmatic. It must be remembered, too, that, in placing the paralysed side downwards, the injured side of the brain is upwards, and, therefore, relieved from hypostatic congestion, a condition always liable to occur when an injured part remains dependent.

In my original paper, in the *Transactions* of the Royal Medical and Chirurgical Society, three varieties of stertor were defined:

1. *Palatine Stertor*, when the air, in rushing through the nose or mouth, causes a vibration of the soft palate.

2. *Pharyngeal Stertor*, when the air passes through the narrowed interval between the base of the tongue and the posterior wall of the pharynx.

3. *Mucous Stertor*, depending upon air bubbling through mucus in the larger air-tubes.

Besides these, there is occasionally, but only very occasionally, what

may be called a *laryngeal stertor*, heard most commonly during the inhalation of chloroform, which has been pointed out by Professor Lister. Whether this arises from a spasm of the glottis, or from paralysis of some of the laryngeal muscles, I am not prepared to say. There is, however, a *nasal stertor* which belongs more to the apoplectic state, and, as far as my experience goes, is often a symptom of the gravest kind. It arises from paralysis of the nerves supplying the elevators and dilators of the alæ nasi; so that the ingoing air, as in sniffing, draws the alæ nasi towards the septum, and sometimes causes a serious obstruction to the breathing, and certainly hastens death, as well as needlessly distresses the bystanding and sorrowing relatives.

CASE II.—A lady, sixty years of age, fell head-foremost down stairs, and was taken up unconscious. She had complained much of head-discomfort in the morning, but nevertheless had been out for a short walk. The weather was thundery. On my arrival, immediately after the fall, there was considerable ecchymosis at the outer angle of the left orbit; but there was no bleeding from the ears, nose, or mouth; nor was there any extravasation beneath the ocular conjunctivæ. I found her wholly unconscious, breathing stertorously, and vomiting. The right pupil was dilated and fixed; the left very sluggish. When she was turned on her side, the stertor ceased; the aspect of the face became almost natural; and she moved her left arm and leg, and remained like a person quietly asleep for twenty-four hours. At this time, *nasal stertor* commenced, and gradually increased in intensity; and, *pari passu*, the face became congested and turgid, the veins of the temple stood out in bold relief, and in about an hour she died.

Dr. Monckton saw this case with me in consultation; and I was able to demonstrate to him how stertor and its consequences instantly recommenced in this poor lady's case when she was placed in the supine position, and also how easily nasal stertor could be removed either by pressing the tip of the nose upwards, or by dilating the nares with the handle of a salt-spoon.

There is yet one other form—the puffing out and flapping of the cheeks and lips—which may be fairly dignified with the title of *buccal stertor*. Now, although this last does not give rise to any respiratory difficulty, it is nevertheless, like nasal stertor, of importance in prognosis, and useful for purposes of definition. Like nasal stertor, too, it is dependent on paralysis of the portio dura, and therefore indicates the approach of the intracranial mischief towards that part of the brain which governs the functions of organic life, or (which is a very important alternative) that both it and nasal stertor may arise simply from venous engorgement at the base of the brain, in consequence of the suffocative stertor damming the jugulars.

Authors have always looked upon this symptom as an extremely dangerous one; and so no doubt it is, in the combined conditions of apoplexy and suffocation; but, as I have observed both it and nasal stertor, in a modified degree, in the snoring sleeper; and as cases of suffocative apoplexy, in which it has been most marked, sometimes make a rapid recovery, I withhold my opinion for the present.

Indeed, it is most impossible, from the writings of the past, to arrive at any conclusion as to the value of any symptom of apoplexy. We must now observe from a new point of view (apoplexy without suffocation), and draw our conclusions in the future. The following short case is a happy illustration of some of these remarks. I am indebted to Dr. Lewis of Folkestone for the notes.

CASE III.—A lady, sixty-seven years of age, was found in her bed in an

apoplectic condition. There was total loss of consciousness; the pupils were of about the usual size, but fixed; there was slight reflex action on touching the eyeball, and an occasional involuntary movement of the arms. The face was turgid, and there was both *pharyngeal* and *buccal* stertor. On being placed on her side, the stertor instantly ceased, and she gradually improved. In twelve hours, she had perfectly recovered consciousness; the respiration was normal; the face very pale, and the pulse quick and feeble; and there was no paralysis.

Surely no case could have looked more unpromising than this, when the age is taken into consideration.

Nasal stertor is unaffected by the position of the body, but may always be relieved by mechanical means.

Palatine stertor is usually of the least consequence; *i. e.*, it obstructs the breathing only very partially, and cannot always be removed by changing the position of the body. It is affected by the size of the tongue, the length of the uvula, the position of the chin, and other incidental conditions, all of which may be obviated if the obstruction to the breathing be sufficient to render it worth the doing.

Pharyngeal stertor is the most common, in severe cases of apoplexy, when patients are recumbent. This may always be obviated by properly arranging the position of the patient; allowing the paralysed mass—the tongue—to gravitate to one side, rather than against the back of the pharynx.

Mucous stertor, when unconnected with lung-engorgement, the consequence of suffocation from stertor, only occurs in very serious cases, depending upon interference with the nutritive processes of the lung-tissues—probably arising remotely from accident to, or pressure upon, the medulla oblongata. This can always be satisfactorily removed by proper attention to the position of the body.

These principles apply not merely to apoplexy, but also to all apoplectic conditions. Especially I would mention drowning, epilepsy, convulsions in children, meningitis with effusion, death-rattles, fracture of the skull, concussion, bronchitis (especially that of old people), sudden œdema of the lungs, large hæmorrhage from the lungs, great exhaustion, chloroform-poisoning, drunkenness, opium-poisoning, and all conditions in which mucus or fluid exists in the lungs; and also all conditions allied to the apoplectic, whether there be mucus or not.

I have seen and treated all these conditions, and invariably with a similar result—an unfailing relief to the distressing symptoms and their consequences; and in many instances, both in my own as well as in the practice of my friends, ultimate recovery has occurred in cases which must, we believe, have terminated fatally if the obstruction to the breathing had been allowed to continue unrelieved.
