

Psychogenic vomiting and hypokalaemia

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EDITORIAL COMMENT This clinical study is an important contribution towards the understanding and management of this group of patients with psychogenic vomiting. Hypokalaemia may explain some of the bizarre clinical features.

Vomiting is a symptom that commonly leads a patient to consult a doctor, and in the experience of Alvarez (1951) in the majority of cases vomiting is psychogenic in origin.

Nausea and vomiting are familiar accompaniments of emotional distress and as such have provoked common expressions such as 'you make me sick' or 'I am fed up'. It is often stated that these patients may be distinguished from those suffering organic illness by their lack of distress and the absence of physical sequelae to the vomiting. A recent edition of a respected textbook (Cecil and Loeb, 1959) reads: 'The patient complains bitterly but looks well'. It is the purpose of this paper to illustrate that this is by no means always the case, even outside the setting of the vomiting of anorexia nervosa and the vomiting of pregnancy, which are more commonly recognized as causing serious metabolic upset.

Alvsaker, Brodwall, and Haarstad (1960) have described three cases of vomiting due to psychological causes, which led to a profound metabolic disturbance. They give few details of the psychiatric state of the patients and nothing at all about their possible psychogenesis.

In anorexia nervosa, vomiting usually begins as a reflex consequence of bulimia but is thereafter frequently self induced as a conscious attempt to avoid the increase in weight that these patients fear so much. Because of the employment of conscious mechanisms, these patients are usually very secretive about their vomiting habits (Crisp, 1967).

In the vomiting of pregnancy, there is probably an important organic component but this cannot be the whole story as some pregnant women do not vomit and vomiting is never seen in animal pregnancies. Chertok, Mondzain, and Bonnaud (1963) have observed that the frequent attribution of excessive vomiting to resentment against maternity is an oversimplification. These authors have found that where the individual freely admits her hostility

to the pregnancy there is little vomiting, as also with those women who greatly desire the child. It was chiefly in the women who were ambivalent towards approaching maternity that vomiting was commonest.

Outside these two special settings there has been little description of the actual situations that have provoked vomiting in language comprehensible or acceptable to the non-psychiatric practitioner. The only large series of such patients has been contributed by Wilbur and Washburn (1938) who examined a group of 140 patients considered to be suffering from 'functional or nervous vomiting'. They found that 80% of the patients were women, mostly between the ages 20 and 40. It was their opinion that few of their patients suffered physically from the consequences of the vomiting. They advocated a régime of explanation and support to the patient, but in more resistant cases this was backed up by admission to hospital and the avowedly deterrent procedure of administering rectal infusions whenever they vomited. They do not provide any detailed protocols on their patients so that no light is thrown on their psychopathology or the details of their symptoms.

There are some sporadic case reports that give greater detail but most of these are devoted more to the intrapsychic mechanisms, such as are revealed in psychoanalysis, rather than the simpler case study approach more within the reach of the non-psychiatric practitioner who will meet most of these patients. The psycho-analytical views have been summarized in the study by Cleghorn and Brown (1964) which contains much else of interest concerning the psychology and physiology of emesis.

A group of these patients is presented in the following case studies because of the particular features of interest they demonstrate both from the psychological and somatic points of view. They were referred from the general departments of the Middlesex Hospital

over a period of 16 months as part of the routine psychiatric service and were not specially selected in any way.

CASE REPORTS

CASE 1 A 32-year-old woman with a three-year history of vomiting and weakness, chiefly in the mornings, six weeks before her admission to hospital began to have attacks of uncontrollable shaking. On one occasion her limbs became paralysed and she was unable to speak for some hours although she understood what was going on around her. This attack was accompanied by severe cramp and extreme dorsiflexion of both feet. There were other similar shorter episodes, all of which took place during the hours of sleep and first thing in the morning. She became increasingly weak, developed multiple bruising and was admitted to hospital, by which time she had lost over a stone in weight. She was an agitated, dehydrated woman with some bruising. No other physical abnormalities were noted. She was investigated very thoroughly but no organic cause for the vomiting could be found. Serum potassium level was 2.9 mEq./l. chloride 98 mEq./l, sodium 142 mEq./l. There was some macrocytosis (M.C.V. 109) but haemoglobin was 13g.%. All other investigations, including clotting factors, sternal marrow puncture, serum folic acid and vitamin B₁₂ levels, revealed no abnormality.

During the admission she was very withdrawn and when seen for psychiatric interview was hostile and reluctant to talk about her problems. However, during the course of her visits as an out-patient she became more forthcoming. She had been married three and a half years before admission and the vomiting had begun within a month of her marriage. She bitterly resents her husband for his lack of concern for her and his extravagance with money which makes it essential for her to work. She led an active sexual life before marriage and has felt frustrated by her husband's lack of libido and his unwillingness to seek any help in dealing with the problem. There has been no intercourse at all since the first six months of the marriage.

Her mother is a passive, ineffectual person who has always suffered from vague ill health, including frequent bouts of unexplained vomiting. The father is described as a pedantic, assertive, unlovable person, an ex-military policeman. There is a younger brother who suffers from migraine who, she feels, has always been preferred to herself.

She believes herself to have been an unwanted child and for the first seven years of her life was brought up by her grandparents, chiefly due, she thinks, to her mother's lack of interest in her. She has seen little of her parents during her adult life.

In childhood she had frequent 'bilious' attacks which ceased at the age of 14 and were succeeded at the age of 18 by recurrent attacks of migraine associated with vomiting. These attacks have become less frequent with the passage of the years and most of her recent vomiting has not been associated with headache.

She is further resentful that, on her marriage, she was

forced to give up a job as an air hostess that she had very much enjoyed.

While in hospital the vomiting stopped and the patient gained 11 lb. in weight in the two weeks. After discharge and return to work, she relaxed completely. With chlorpromazine and regular supportive psychotherapy (she has always been very unwilling to go very deeply into her major problems), she rallied. She has been followed for 24 months since discharge. During this time she has remained at work, despite episodes of vomiting lasting for a few days at a time. When last seen the serum potassium level was 3.7 mEq./l.

CASE 2 A woman, aged 67, in April 1965 had a hiatus hernia repaired because of chronic blood loss. Some two months following the operation she developed nausea, especially in the mornings. In August nausea was persisting for the whole of the day and soon she began to vomit persistently. She was admitted to hospital in December having lost 10 lb. in weight. On examination she appeared distressed and dehydrated. There was albuminuria. Serum electrolytes were: potassium 2.8 mEq./l., sodium 136 mEq./l., chloride 91 mEq./l., bicarbonate 23 mEq./l. She was thoroughly investigated from the physical point of view, including a barium meal and oesophagoscopy, but no adequate cause for vomiting was established.

In her psychological background the chief factor was that for the last 20 years she and her husband had lived together as antagonistic strangers.

Her father had been an aggressive, alcoholic sergeant-major who had died when the patient was aged 5. The mother, of whom the patient had been very fond, died in 1948. There is a family history of diabetes and enuresis.

After the father's death she was sent to an orphanage, where owing to poverty, the mother did not visit and the patient remembers her sense of abandonment. She was enuretic to the age of 7 and also vomited when in a state of tension. She was unprepared for menstruation at the age of 12 and feared that she might bleed to death. Her mother explained that 'it was a burden that women had to put up with'. She married at the age of 26. She had never been very fond of her husband but gave in to his persistent courtship. He was an only child and she found his mother continuously antagonistic towards her. She found him dirty in his person and lacking in libido. He did not want any children but she set out to seduce him so that she might become pregnant. There are two children: a girl, now married, whom she finds a perfectionist, hypercritical person, and a boy, who has grown into a feckless psychopath, unsettled in his work, who has wheedled all her savings from her. The patient has always been a tidy, houseproud person with high standards of moral behaviour. She often feels great anger in her frustrations, but suppresses it. She said: 'I often bite my lip through—if only I could cry. Inwardly I am seething—I go about as usual and nobody knows, but I am choked inside.'

During the period when nausea and vomiting were developing there were three major upsetting events. Her best woman friend, with whom she would have regular outings, became acquainted with a man and saw

very much less of her. A young male lodger in her house, who had always treated her with consideration and affection, gave notice that he was marrying in the following year and would be leaving her. Her mother-in-law, whom she had loathed, died, and, owing to her husband's apathy in the matter, she felt impelled by her own high standards of behaviour to make the funeral arrangements and even to attend the funeral, resenting her husband all the time.

In her previous medical history she had severe pneumonia in 1946 during which illness she vomited copiously. During this illness there was an episode lasting some hours in which she felt unable to move her limbs or speak although she could hear what was said to her and knew how she wished to reply. It was during this illness that her husband showed such lack of concern for her that the final breach occurred between them.

She had been at first unwilling to talk about her problems and hostile at the suggestion that she might see a psychiatrist. During the course of the interview she became more forthcoming. When the time came to talk of her husband and son she was so overcome by nausea that the interview had to be discontinued.

She was given effervescent potassium, chlorpromazine, and the opportunity to gain some psychological catharsis in interviews with the psychiatrist. Her vomiting cleared up in a few days and she began eating again. She has been seen for six months after discharge and has remained well, apart from occasional short relapses usually associated with some stress. When last seen the serum potassium level was 3.8 mEq./l.

CASE 3 A 40-year-old spinster was referred because she had been vomiting over the preceding 18 months with increasing weakness and difficulty in coping. Six weeks before referral, she had returned to bed one morning owing to weakness, and suffered two episodes, lasting half an hour each, in which she felt unable to move the right side of her body. She had lost one stone in weight over the previous 18 months. Three years before the current attendance she had developed severe urticaria requiring in-patient treatment.

Thorough physical examination and investigation failed to reveal an organic cause for the vomiting or a neurological cause for the paralysis. Serum electrolyte levels were: potassium 3.4 mEq./l., sodium 142 mEq./l., chloride 95 mEq./l.

She was investigated from the psychological point of view. Her major problem emerged as an intense resentment against her widowed mother with whom she was living. The mother was aged 74 and over the preceding three or four years had become increasingly cantankerous, depressed, and paranoid. She would demand that the patient stay in every night and would make a great scene if she refused—something that the patient rarely did. Three years previously the mother had an episode of unexplained vomiting lasting three to four months. The father had been an inveterate gambler who had always provided poorly for the family and had been at constant loggerheads with his wife. The patient resented the strain that he was putting upon them and was aware that she wanted him to die. When he did die six years ago she felt

profound guilt which has persisted since. One sister has required E.C.T. for a depressive episode. The mother and a sister suffer from migraine.

The patient weighed 3½ lb. at birth. At the age of 10 months she sustained a head injury for which she was in hospital for three weeks. For the next six years she had recurrent episodes of vomiting, sometimes precipitated by emotion, which were labelled as 'acidosis'. She was always somewhat nervous, walked in her sleep, and continued to suck her thumb up to the age of 18. Since her childhood she has roughly twice a year had episodes of generalized sleep paralysis on waking in the morning.

She has enjoyed working in a responsible clerical post apart from a period when the manager, whom she liked personally, died. He was succeeded by a very unpleasant person, who stayed for 18 months, and it was immediately after his departure and coinciding with certain deaths in the family, that the patient's skin condition developed.

Periods commenced when she was 12. They have been irregular during the period of vomiting. At the age of 10 her genitals were fondled by an older man whom she still occasionally passes in the locality, at which times she feels nauseated. She has never had a serious man friend, is a virgin, and although she has had numerous proposals has not considered any of them, usually because the suitors were not of her Jewish faith.

She was a very conscientious person with high standard of behaviour instanced by her not only supporting her mother but giving considerable financial help to one of her sisters.

She was unable to tolerate chlorpromazine but promethazine was found helpful for the control of vomiting. She had regular psychotherapeutic interviews. The vomiting ceased and she gained weight. During this time a very much more depressive picture emerged, largely related to her hitherto unexpressed guilt about her father's death and her current hostility towards her mother.

She was discharged from hospital after six weeks, having gained 6 lb. In the nine months since her discharge she has continued to work and has maintained her weight. When last seen the serum potassium level was 4.1 mEq./l.

DISCUSSION

The particular points of interest in these patients are:

In all of them the vomiting and associated cachexia were sufficiently severe to result in significant loss of weight and impairment of well being.

They all suffered episodes of paralysis, two in the current illness and the third during an earlier illness associated with vomiting. In each case it had at some time been thought that these were hysterical paralysees but although the evidence is not conclusive it is worth considering other possible factors. They all proved to have subnormal levels of serum potassium and it is therefore reasonable to assume that this may have contributed to their physical difficulties. The pedal spasms of case 2 may

similarly be due to hypokalaemia (Fourman, 1954), although hyperventilation may have complicated the issue. However, it is a gross oversimplification to think in terms of either the physical or psychological: both operate simultaneously. These are patients who have a lower threshold for the invocation of neurotic mechanisms and as such may well be susceptible to less marked degrees of potassium depletion and more likely to contaminate their organic symptoms with a neurotic overlay. Equally, in patients who develop hypokalaemia due to physical illness, it may be that one of the factors that determines the individual threshold for developing symptoms is related to the degree of neuroticism in their personality.

It is especially important to bear the possibility of hypokalaemia in mind as, because these patients are suffering from psychogenic vomiting, there is a greater tendency to ascribe all their symptoms to 'hysteria', especially when they take on the rather bizarre character described by these patients.

When investigated from the psychiatric point of view, each patient was found to be living with a person to whom they felt great antipathy but from whom they felt unable to get away—someone 'who made them sick'. The histories all provided evidence of general deprivation and difficulties in childhood with other psychosomatic illness in two and enuresis in the third.

Many individuals have the sort of problems described here without developing vomiting so that there must be other factors that contribute to the form that their symptoms take. An interesting feature of all these patients is that they all suffered from frequent vomiting in childhood. It is becoming increasingly accepted that the various vomiting syndromes in childhood are commonly emotional in origin (Apley and McKeith, 1962). Thus the pattern of their reaction to stress seems to have been set at a very early age.

It is of interest that two of the mothers tended to have unexplained episodes of vomiting: thus in the children it might be an attribute of the individual pattern of physiology that they inherited or behaviour that they imitated. On the other hand, it may have been some other early orientating experience now lost in the mists of time or even some incident too trivial to be thought worthy of note by the gross perceptions of an observing adult.

It is in this area that psychoanalytical investigation has concentrated most, and in the few cases that have been reported it has commonly been found that the vomiting is a reflection of sexual disgust related to the misadventures of childhood in accord with the views of Freud and Breuer. The patients reported here showed the denial so common in patients who

use somatic mechanisms for dealing with their psychic difficulties, but it is noteworthy that they had all, for many years, led lives of which the sexual aspects had been impoverished.

It was possible, with psychological explanation and support, to help these patients to cope better with their difficulties, and also with phenothiazine drugs to damp down the reactivity of the autonomic nervous system to those problems that remained.

SUMMARY

Three cases of psychogenic vomiting are reported. Each patient gave a history of bizarre episodes that were probably, in part, due to hypokalaemia. From the psychological point of view their most prominent difficulty was that they felt forced to live with people whom they greatly resented together with an associated impoverishment of their other relationships. They all showed evidence of reacting to stress with vomiting from an early age. Possible determinants of this response are discussed. They all improved with the help of psychotherapy and phenothiazine drugs.

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ADDENDUM

Since seeing the patients described in this paper, the author has seen a further 17 psychogenic vomiters. The whole group has been compared with a control group suffering from psychogenic abdominal pain.

The major features of this group of vomiters were that they were for the most part locked in an inescapable hostile relationship within their family group, which commonly had a marked family history of vomiting. Very many of these patients had lost parents during childhood and had often been recurrent vomiters in childhood.

The three patients described in detail in this paper illustrate very well the features found in the larger group of vomiters.

REFERENCES

- Alvarez, W. C. (1951). *The Neuroses*. Saunders, Philadelphia.
- Alvsaker, J. O., Brodwall, E., and Haarstad, J. (1960). Nervous vomiting as the cause of electrolyte disturbances, kidney damage and general tissue damage? *Acta. med. scand.*, **166**, 331-336.
- Apley, J., and McKeith, R. (1962). *The Child and His Symptoms: a Psychosomatic Approach* Blackwell, Oxford.
- Cecil, R. L., and Loeb, R. F. (1959). *Text book of Medicine*, 10th ed. p. 798. Saunders, Philadelphia.
- Chertok, L., Mondzain, M. L., and Bonnaud, M. (1963). Vomiting and the wish to have a child. *Psychosom. Med.*, **25**, 13-18.
- Cleghorn, R. A., and Brown, W. T. (1964). Psychogenesis of Emesis. *Canad. psychiat. Ass. J.*, **9**, 299-312.
- Crisp, A. (1967). *J. Psychosom. Res.*, To be published.
- Fourman, P. (1954). Experimental observations on the tetany of potassium deficiency. *Lancet*, **2**, 525-528.
- Wilbur, D. L., and Washburn, R. N. (1938). Clinical features and treatment of functional or nervous vomiting. *J. Amer. med. Ass.*, **110**, 477-480.