ORGANIC SYNDROMES PRESENTING AS INVOLUTIONAL MELANCHOLIA

BY

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The "involutional period" may be defined as a physiological epoch which occurs in both men and women and is manifested by various mental and physical changes, some trivial and others of much importance. During this epoch, which roughly may be said to be between 40 and 55 years in women, and between 50 and 65 in men, the syndrome of "agitated depression" often arises, and, although seen more frequently in certain ethnic groups (for example, the Scots and Irish), it occurs often enough elsewhere to be readily recognizable, not least by its excellent response to electroplexy.

When Kraepelin in 1896 first made the important differentiation between the manic-depressive psychosis and dementia praecox, he kept cases of depression occurring at the involutional period separate and gave to these the name of melancholia. Since that time this subject has been the occasion of much discussion. Many psychiatrists, for example, have considered that the affective disturbance should be looked upon as a modified manic-depressive psychosis, occurring at a particular time and age. Other workers (Palmer and Sherman, 1938), accepting the condition as an entity, found constant premorbid personality trends of obsessional characteristics and hyperreligious ideas. Gillespie (1929), in differentiating types of depression, stated that there was a distinct involutional group whose chief characteristic was preoccupation of a hypochondriacal type.

Henderson and Gillespie (1950) believed categorically that the concept of involutional depression *per se* is fully justified. They considered that certain features are characteristic of the syndrome, such as agitation, depression, anxiety, feelings of unreality, and hypochondriacal self-concern. Such symptoms, arising in a person with no history of previous depressive illness and with a premorbid personality of the rigid obsessional type during the period of the climacteric, are regarded as diagnostic of this particular type of illness. Muncie (1948), from a psycho-biological point of view, classifies under holergasias (psychoses), five major groups of depression, one of which he terms involutional on its own.

In general, most of the literature agrees with this concept, emphasis being placed in one view upon the endocrine changes (Hemphill and Reiss, 1940), in another upon the dynamic psychological changes (MacCurdy, 1925), while yet others feel that all these factors play a composite aetiological part (Nielson and Thompson, 1947).

The purpose of this paper is to bring together four cases, all of which presented clinically as an involutional type of depression, and in all of which was found, on subsequent investigation, evidence of various organic illnesses, the significance of which—in this setting—is discussed later.

Case 1

A man aged 56 was admitted in an acutely disturbed state to hospital in June, 1951. During the previous nine to twelve months he had been complaining of general debility, depression, and being "unable to take any interest in anything." He was happily married, and had two sons,

both well. He had no domestic or financial worry, nor was there any history of psychological illness in his family. A teetotaler and non-smoker, he derived a great deal of satisfaction out of his garden. Up to the day he was seen he had been driving a corporation bus, a job which he had held down for many years. According to his wife, he had always been a hard worker, conscientious, and very particular about his job and his personal appearance; he was mainly interested in his home and garden, and had never missed a day's work before.

Clinically, he was moderately depressed and inclined to cry during the interview. His agitation was great, and he presented a picture of extreme anxiety. His talk was reasonably spontaneous, but was preoccupied with ideas of "low-spiritedness" and pains in the head, back, and legs. He was very concerned that he might be putting his passengers' lives in danger by continuing to drive. He also complained of insomnia, "waking up full of fears about three o'clock and unable to go off again." There was no delusional or hallucinatory ideas, and he was correctly orientated in all spheres. His memory for remote events was good, but rather poor for recent and retention material. It was thought at the time that this was probably due to preoccupation with his own depressive ideas.

Physical examination at that time did not add very materially to a diagnosis of involutional depression. In hospital the usual investigations (x-ray examination of the chest and skull, blood Wassermann reaction, and urine analysis) were all negative, but several electroencephalographic reports suggested an abnormal tracing of an organic type in the left hemisphere, around the Sylvian point. At the same time, ten days after admission, he began to complain of weakness in his right arm and leg. This could be demonstrated, and a condition of slight blurring of the left disk margin was noted at this time. No abnormal manometric results were found on lumbar puncture, but there was 100 mg. of protein per 100 ml., with a triple increase of globulin. A few days later a bilateral carotid arteriography showed an outline of a large vascular tumour, suggesting a meningioma, in the left post-frontal parasagittal region. Operation was carried out on July 16, and a meningeal tumour weighing 60.8 g. was removed. Post-operative convalescence was uneventful, except for an epileptic attack a month later. Because of this he was given prophylactic phenobarbitone, and there has been no recurrence one year later. Since the operation there have been no periods of depression or agitation, and his family maintain that, apart from residual weakness of the right arm and leg, he is his "old self" again.

Case 2

A married woman aged 43 presented initially as a psychiatric problem, although clinical neurological examination a few days later clearly revealed signs of a cerebellar disorder. She had apparently awakened one morning at her usual time, got out of bed, and then suddenly experienced a severe attack of giddiness with nausea and vomiting. Later that day she became acutely depressed and agitated, and when her doctor saw her she presented as an acutely anxious, tearful, and very dejected patient. Her thought content was predominantly morbid, with many feelings of guilt and hypochondriacal ideas. This mental state—typical of that seen in the classical involutional melancholia—continued for about three months, and then resolved as suddenly as it had begun, when the neurological symptoms and signs described below were resolving.

On admission to a psychiatric hospital six days after the onset of her illness, as a case of "acute agitated depression," she presented nystagmoid movements of both eyes, dysphagia, and dysarthria of staccato type. There was loss of power and reduced tone in the right arm, and to a slighter extent in the right leg. Gross intention tremor, ataxia, and rebound phenomena were also observed in the right arm. Over the whole of the left arm and leg there was a patchy hypalgesia. The C.S.F. was not under pressure,

but 92 lymphocytes per c.mm. were found, together with increased protein (80 mg. per 100 ml.) and a triple-positive globulin. The Lange reaction was negative, as was also the W.R., and chlorides and sugar were within normal limits. X-ray films of the chest and skull were normal and a blood count showed no abnormality. Blood W.R. was negative.

Clinically, the condition suggested a cerebellar apoplexy, the underlying pathology of the nature of a thrombosis of the posterior inferior cerebellar artery. No further elucidation was ever made, and over the next three months the C.S.F. slowly resolved to normal. During this time four examinations of the fluid showed a reasonably close correlation between the progressive normality of the fluid and the diminution of the anxious and depressed clinical state.

This patient had no previous history of illness of any sort. A paternal aunt had been in a mental hospital for many years, suffering from "melancholia." She had three children, aged 19, 15, and 8, all well. Her menses had become irregular about seven months before the onset of the illness, and she had complained of some "flushings" and headaches. She was a rather quiet, rigid, seclusive woman, who took a great pride in her house and personal appearance. She had no outside interests and her husband maintained that her illness was really due to "her serious nature and her inability to relax and enjoy herself." Although the precise pathological process was not elucidated in this case, and may have been associated with a virus meningo-vascular infection, it seems to be a reasonable example of the type of depression under consideration, being associated with an acute neurological disorder in a person whose basic personality is usually equated with an involutional type of anxious depression. The affective reaction began suddenly, and three months later resolved, *pari passu* with the initial clearing-up of the dysphagia, dysarthria, and ataxia.

Case 3

A married woman aged 53 was referred for hospital treatment as a case of early involutional melancholia, although it was noted at the time that her blood picture was "probably of aetiological importance." Her menses in the past year had become rather irregular and scanty, and for the past two months she had complained of headaches, acroparaesthesia, and flushings of head and neck. In addition to these symptoms she was noted to have become very depressed, with bouts of crying, during which she would moan and maintain that her whole life was nearly finished and "everything was hopeless." Objectively, she showed much anxious preoccupation with her bodily discomforts and at times gave way to actual panic attacks of screaming, believing she was about to die. She had some feelings of unreality and ideas of reference, believing that her neighbours were constantly discussing her. Apart from her depressive thought content, she showed many ideas of guilt in relation to her younger days as a barmaid, when, she maintained, she was one of the most wicked women in town.

There had been no previous psychological illness, but some years ago her doctor had treated her for anaemia with liver injections. These had been stopped eighteen months before, as she had "come to the end of her course." She had no family history of any relevant importance, and her husband described her as "easily upset, a martinet about tidiness in the house, very fussy, and capable." Her aged father maintained that she had been a chronic worrier from childhood.

Clinical examination revealed a generalized icteric tinge and mild glossitis, and it was noted at the time that there was considerable oral eructation. Nothing else was made out on examination. There were no demonstrable neurological signs. Blood examination showed: red cells, 1,480,000 per c.mm.; white cells, 4,640 per c.mm.; haemoglobin, 37%; M.C.V., 108 μ^3 ; M.C.H.C., 36.9%. The differential white count was proportionately normal. The

film showed marked anisocytosis, polychromasia, and a few megaloblasts. Reticulocytes were 0.8%. A fractional test meal demonstrated gastric achylia. X-ray examination of the chest, blood W.R., and urine analysis were all negative, apart from the last, in which there was an increased urobilin.

From these findings a diagnosis of a megalocytic anaemia of the Addisonian type was made and liver therapy was instituted. During the next week or so there was a good reticulocyte response, at its peak going up to 31%. Over the next two months the blood picture slowly improved to normality, and associated with this improvement was lessening of the depression and agitation, although there were fluctuations. At one stage, for example, when her haemoglobin was 63%, she became very paranoid, noisy, and abusive towards the staff, and talked in a conspiratorial fashion about the staff trying to poison her. This may have been due to a fortuitously occurring streptococcal cystitis which appeared then. She was finally discharged with no evidence of agitation or depression, but still rather emotionally labile, with her haemoglobin in the region of 96%.

Clinically this was a case of involutional depression, and the most that could be said at the beginning was that there was an associated anaemia, probably of an Addisonian type. No other treatment except that of haematinics was given, and it was quite clear that the mental state tended to resolve *pari passu* with the improvement in the blood condition. It is assumed that the paranoid outburst during the course of treatment was a toxic-infective process in the form of the cystitis, and the prompt treatment of this quickly cleared up the rather difficult nursing problem which had arisen.

Case 4

A man aged 58 was admitted to hospital in a state of extreme agitation, with a history of depression and agitation for about two months. He could give no coherent account of his illness, and his talk, which was rarely spontaneous, seemed preoccupied with ideas of worthlessness and hopelessness, and a fixed belief that he would be taken to Russia "for punishment."

He was one of nine children, seven of whom were living and well. One of his sisters had had a depressive illness during the puerperium of the first of her children. The patient had two grown-up children, both in excellent health, but he and his wife had had at least four stillborn children. Most of his life had been spent on the railways, mainly as a driver. He had a personality, according to his children, of moroseness, seclusiveness, and rigidity. He constantly worried about his own and their affairs. He would become irritable if slippers or paper were not laid out in their usual positions each night. He was opinionated and intolerant. Frequently he had "beaten up" his wife. As soon as these phases wore off, he would become ashamed and contrite, and buy her several presents to make up for his misdeeds. The patient's daughter was in no doubt that her father's illness was due to "overwhelming guilt about his intolerance."

After admission there was no change in this gross picture of anxious, agitated depression, punctuated by bouts of crying and expressions of misery and hopelessness. Neurologically there were no anomalies, apart from the gross generalized tremor and a slight wasting of muscles around the left shoulder-joint (old injury). So far as his state of general agitation and preoccupation permitted, psychological testing did reveal impairment of memory, especially for recent events and retention, but it was found impossible to apply to him planned performance or abstraction tests. His B.P., blood W.R., electrocardiogram, and x-ray films of the skull and chest did not materially add to the clinical conception, which undoubtedly was a characteristic picture of involutional depression.

Ten days after admission, quite suddenly, he had a series of general epileptiform attacks, which were eventually

controlled by intramuscular paraldehyde and phenobarbitone, leaving a right-sided Todd's paralysis which lasted for twenty-four hours. Over the next week these fits continued, but each series was fairly easily controlled. At the time lumbar puncture revealed nothing of significance, either manometrically or on analysis of the fluid. There was no B.P. increase, and the blood urea was twice found to be normal. A blood count likewise was within normal limits. Serial electroencephalograms suggested diffuse organic change, but no localization. A week later an air encephalogram revealed a considerable degree of atrophy of the frontal and right temporal lobes.

Over the next two to three months the picture of anxiety and agitation slowly resolved, and three months after admission more precise psychological testing showed average verbal intelligence but gross impairment of performance ability. Verbal abstraction appeared to be reasonable, but there was a failure in the type of abstraction involving spatial organization and associated performance. There was also gross but selective memory deficits, especially of recent memory.

Eighteen months later he had continued to deteriorate, presenting a picture of almost depressive stupor, lying in bed, incontinent of urine and faeces, and oblivious of his surroundings, taking no interest in any nursing attention, and usually indifferent to questionings. On the rare occasions on which he spoke, his thought content was profoundly depressed, with many suicidal ideas. It is to be noted that over the previous year he had had several courses of electroplexy, with only slight and temporary improvement in his affective state. The diagnosis was a pre-senile dementing condition. The first week in hospital, however, with the history of onset and the clinical picture, particularly the feelings of guilt and remorse, suggested very strongly an involutional type depression. It was the onset of the epileptic convulsions that first persuaded us to look further afield for the pathology and undoubtedly anticipated "naturally" the projected use of electroplexy in the early stages of this condition.

Discussion

It is by no means intended to give the impression that a depressive symptom-complex is not often seen with associated organic illnesses. Kraepelin (1913), for example, was convinced that a disorder of metabolism was usually associated with manic-depressive illnesses, and he enumerates many physical findings, such as infantilism and hydrocephalus, which he felt were intimately connected with the psychiatric manifestations. Depressive manifestations are also well known in the symptomatology of G.P.I., cerebral arteriosclerosis, tumours, and many other diverse conditions. McMenemey (1941) considered that depression is a more characteristic affective state in pre-senile dementias than is excitement. Spillane (1947) mentioned depressive features occurring in various types of nutritional deficiency, especially pellagra.

This paper, however, is concerned with a special type of depression occurring at a physiological epoch and showing in all the patients the particular obsessional type of personality which is so characteristic of this illness. The pre-morbid personality of the usual rigid and scrupulous type, often with an associated tendency to worry unduly, was seen in all of them. The depression when it arose was of the anxious, agitated type, again typical of the illness under discussion.

In Case 1 the relationship between the underlying organic illness and the depression was noteworthy. Sachs (1950) described eight cases of meningiomata presenting as dementia; all of these were clearly so, but it is noted that in Case 8, Miss H. L. presented with depression and had become querulous, hypochondriacal, and aggressive before the more overt signs of dementia had become manifest. Her age, 69 years, alone would have removed her from the group described above, at least from the purist point of view, and, although there is not much information about

her pre-morbid personality, it is interesting that in her case a meningioma over the right parietal region of the brain should have produced similar suggestive symptoms in the early states. McIntyre and McIntyre (1942), in a paper on seven cases of brain tumour, reported four cases of meningioma presenting primarily as psychiatric problems; these cases were incorrectly diagnosed as chronic alcoholism, psychosis with Parkinson's disease, arteriosclerotic dementia, and Alzheimer's disease. These authors believe that the meningioma is the "most common tumour producing mental symptoms."

Case 2 might certainly have been diagnosed as a case of cerebellar apoplexy much earlier than it eventually was, but the fact remains that the case presented to her doctor and to her family as one of an acute and agitated depression. On questioning her husband later, he maintained that on no occasion did she complain, after the initial disturbance of giddiness and nausea, of any somatic symptoms or difficulties whatsoever. Her age, menstrual irregularities, and her previous personality all appeared "set" for an early involutional depressive illness.

The same postulates apply to Case 3, although here again there were undoubted physical findings, and the pallor of the mucous membranes and generalized icteric tinge certainly suggested a chronic Addisonian type of anaemia. Osgood (1935) discussed the problem of psychiatric symptomatology occurring in the course of pernicious anaemia, and came to the conclusion that such a relationship was largely coincidental. Many other investigators (Cabot, quoted by Rogers, 1915; McAlpine, 1929; Herman *et al.*, 1937) firmly believed that such a relationship exists. According to Herman *et al.* there are four reasonably common pictures, consisting of—in order of frequency—an acute confusional state, paranoid reaction, affective reaction, and an organic deterioration type. Case 3 showed a typical involutional depression, with the characteristic personality; a megalocytic anaemia which responded well to liver; and a resolution of her mental symptoms, apart from one paranoid outburst which lasted a few days, reasonably parallel to her physical improvement. It would seem to be too much to regard such a relationship as fortuitous only.

Stengel (1943) pointed out how pre-senile dementia may present as an involutional agitated type of illness and how, for example, the apprehension and tension so conspicuous in many cases of Alzheimer's disease recall the characteristic state in involutional melancholia; and he goes on to postulate the idea of a more than superficial relationship between Alzheimer's disease and the deteriorating type of involutional depression. Hemphill and Stengel (1941), in a study of a case of pre-senile dementia, found that the only symptom for a long time was the affective one of depression. Noyes (1947) and Ewen (1947) pointed out the many difficulties of a differential diagnosis between involutional melancholia and cerebral arteriosclerosis. The memory loss, focal neurological symptoms and signs, epileptiform attacks and vertigo, etc., should, of course, be of importance in the differentiation, but in Case 4 there was no such evidence until a week after admission, when indeed the question of electroplexy was being considered.

These four cases, admittedly few in number, do seem to bear out the modern conception of the production of involutional symptoms—that is, that although there are, of course, the regressive glandular change and accompanying psychological changes, these endocrine changes constitute only one factor. Neilson and Thompson (1947) believe that the symptoms "depend partly upon the distortion of previously existing personality defects," and they go on to postulate factors important in the aetiology of the condition—heredity, diminution in activity of endocrine glands, prepsychotic personality, age, and a "realization of instinct decline"—as predisposing factors, and suggest that precipitating factors may be psychic, physical, or both. This conception seems to be a very reasonable one, and with this background the above four cases could be seen in this light; that is, that the organic conditions merely acted as

precipitating causes on a soil already prepared. Put in another way, the affective manifestation of anxiety and depression might seem to be some sort of preformed cerebral function occurring in the personality type and potentially manifesting itself when the right precipitating factor came along.

Malamud *et al.* (1941) take a similar view, and feel that in the "development of the psychoses the pre-morbid personality and catastrophic occurrences before the onset of the illness are of outstanding importance."

From a purely practical point of view, exhaustive evaluation of any physical anomalies seen in association with this type of illness, even if, as in these cases, the whole background seems to be characteristic of involutional depression, is clearly of the utmost importance.

Summary

Four cases of agitated depression are noted, all of which were associated with organic disease.

The depression, its symptoms, signs, and time of occurrence, together with the pre-morbid personality of the patient, were characteristic of the involutional type of illness.

The significance of this association is discussed.

I am grateful to Dr. R. E. Hemphill for permission to publish these cases and to Dr. K. R. L. Hall for his detailed psychological reports.

REFERENCES

- Ewen, J. H. (1947). *Mental Health*, 1st ed. Arnold, London.
 Gillespie, R. D. (1929). *Guy's Hosp. Rep.*, 79, 306.
 Hemphill, R. E., and Reiss, M. (1940). *J. ment. Sci.*, 86, 1065.
 — and Stengel, E. (1941). *J. Neurol. Psychiat.*, 4, 97.
 Henderson, D., and Gillespie, R. D. (1950). *Textbook of Psychiatry*, 7th ed. Oxford Medical Publications.
 Herman, M., Most, H., and Jolliffe, N. (1937). *Arch. Neurol. Psychiat.*, Chicago, 38, 348.
 Kraepelin, E. (1913). *Psychiatrie*, 8th ed.
 McAlpine, D. (1929). *Lancet* 2, 643.
 MacCurdy, J. T. (1925). *The Psychology of Emotion*. Harcourt, New York.
 McIntyre, H. D., and McIntyre, A. P. (1942). *Amer. J. Psychiat.*, 98, 720.
 McMeney, W. H. (1941). *J. Neurol. Psychiat.*, 4, 48.
 Malamud, W., Sands, S. L., and Malamud, I. (1941). *Psychosom. Med.*, 3, 410.
 Muncie, W. (1948). *Psychobiology and Psychiatry*, 2nd ed. C. V. Mosby Company, St. Louis.
 Nielson, J. M., and Thompson, G. N. (1947). *Engrammes of Psychiatry*, 1st ed. Thomas, Springfield, Ill.
 Noyes, A. F. (1947). *Modern Clinical Psychiatry*, 2nd ed. Saunders, Philadelphia and London.
 Osgood, C. W. (1935). *J. Amer. med. Ass.*, 104, 2155.
 Palmer, H. D., and Sherman, S. H. (1938). *Arch. Neurol. Psychiat.*, Chicago, 40, 762.
 Rogers, A. W. (1915). *J. nerv. ment. Dis.*, 42, 693.
 Sachs, E. (1950). *J. ment. Sci.*, 96, 998.
 Spillane, J. D. (1947). *Nutritional Disorders of the Nervous System*. Livingstone, Edinburgh.
 Stengel, E. (1943). *J. ment. Sci.*, 89, 1.

A letter in *Science* (June 25, p. 914) records the results of a six-year investigation showing an unexpected correlation between susceptibility to poliomyelitis and genetic traits indicated by pigmentation of the skin, hair, and eyes. The writer, WALLACE L. MINTO, of New Jersey, U.S.A., says that of 1,183 poliomyelitis cases investigated, 1 only had blond hair, blue eyes, and fair skin, 17 had blond hair and brown eyes, while the remaining 1,165 had brown or black hair and eyes. All the fair patients had light attacks of the disease, only two of them having any permanent disability. The observations were limited to members of the Caucasian race. "Obviously, these observed ratios differ significantly from the occurrence of light pigmentation in the general population." The writer then goes on to make a plea that "this variation of susceptibility to poliomyelitis should be taken into account in any statistical study of the value of prophylactic measures"—that is, light- and dark-haired people should be equally distributed in the control and experimental groups.

INCOAGULABILITY OF BLOOD AFTER ACCIDENTAL HAEMORRHAGE

BY

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Of recent years there have been several reports concerning the phenomenon of incoagulability of the blood which sometimes follows accidental haemorrhage (Dieckmann, 1936; Moloney *et al.*, 1949; Weiner *et al.*, 1950; Goodfriend *et al.*, 1953; Stevenson *et al.*, 1953; and Weiner *et al.*, 1953). This blood incoagulability may give rise to severe post-partum haemorrhage, or to uncontrollable bleeding from the wound or even from suture points after caesarean section, and may be so severe as to cause death. It is sometimes associated with spontaneous haemorrhages in various parts of the body.

In spite of the obvious importance of this complication of accidental haemorrhage, and the need for the early recognition and correction of the condition, little or no attention has been paid to it in the British literature.

Case Report

A 10-para aged 40 had had nine previous normal confinements. She was not attending the antenatal department and was first admitted on March 6, 1953, 26 weeks pregnant and giving a history of slight vaginal bleeding for the past four days.

Examination revealed a uterus corresponding in size to the period of gestation. The cervix was normal and closed. The blood pressure was 125/70 and there was no albumin in the urine. Bleeding ceased and the patient was discharged home on March 11.

She was readmitted to hospital on April 3, giving a history of further slight vaginal bleeding. Liquor was draining at the time of readmission, but she was not in labour and a foetal heart could be heard. The pregnancy had now reached 30 weeks, but the uterus was much larger than the dates would suggest. A haemoglobin estimation gave a reading of 5.1 g. per 100 ml. The blood pressure was normal and there was no albumin in the urine. Blood-stained liquor continued to drain and definite labour pains began at 6 p.m. on April 7. Very slight pains continued and no anxiety was felt regarding her condition. At 3.50 a.m. on April 8 the patient had a typical eclamptic fit immediately following a two-hours sleep. The fit displayed tonic and clonic phases and was followed by a coma. The tongue was bitten. Urine showed a faint trace of albumin and the blood pressure was 110/90. Half an hour after the occurrence of the fit bulging membranes were visible at the vulva. These were ruptured and, using forceps, a small dead-born foetus, just over 3 lb. (1.4 kg.) was lifted out of the vagina. A completely separated placenta immediately came away after the delivery, with 10 oz. (285 ml.) of retroplacental clot. Ergometrine, 0.5 mg., and morphine, $\frac{1}{4}$ gr. (16 mg.), were given intramuscularly. The delivery was completed at 4.25 a.m.

A quarter of an hour after delivery about a pint (570 ml.) of watery non-clotting blood was expressed on rubbing up the uterus. The patient became shocked and immediate blood transfusion was begun. The first pint of blood was given rapidly and a second bottle started. In spite of further administration of ergometrine a continued trickle of non-clotting blood continued from the vagina, and expression a few minutes later produced a further half-pint (285 ml.) of non-clotting blood. At 5 a.m. she was becoming more deeply shocked and a third pint of blood was