by this method will prove to be. In the case under consideration the only evidence as to the site of the haemorrhage was given by the fissured fracture of the skull and by the neurological findings—that is to say, the exaggerated knee-jerk and extensor response on the left side. This might have led us to trephine over the leg area. If this had been done the clot would have been completely missed. The fracture, on the other hand, was near the actual lesion. Trephining over the silent area indicated by the electro-encephalogram brought us down upon the very centre of the extradural haemorrhage. It is very clear from these records and observations that when persistent headache or mental changes follow a head injury and do not resolve for days or weeks the possibility of an extradural or subdural haematoma should be carefully considered and steps be taken to investigate the matter. In particular lumbar puncture and electro-encephalography would appear to be indicated. If information can be obtained in no other way exploration by burr-holes after the method of Horrax and Poppen might be justified. Missed cases will probably suffer from persistent headache and mental symptoms, or there may be a late oncoming of monoplegia or hemiplegia. Cases correctly diagnosed can be relieved of all their symptoms by operation.

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TWO CASES OF PERIPHERAL GANGRENE OF UNKNOWN ORIGIN

BY

ROBERT MARSHALL, M.D., F.R.C.P.I.

Physician, Royal Victoria Hospital, Belfast

The following account of two cases of peripheral gangrene of the ears, fingers, and toes for which no cause could be found is of interest because of the rarity of the condition. Both patients recovered.

Case I

A joiner aged 53 was referred to my ward at the Royal Victoria Hospital, Belfast, on May 22 by Dr. S. B. Carlisle of Dromore, County Down, who stated that some six weeks previously the patient had complained to him of pains in the knees, which were somewhat swollen. Dr. Carlisle gave sodium salicylate and the pains lessened. The patient then developed a purpuric rash, most marked on his legs, and the symptom of haematuria presented. He was kept in bed and given four injections of colloidal calcium. A few days later he noticed that his toes, fingers, and ears were becoming purple and even black at the extremities.

On examination on May 22 the man was obviously ill and suffering acute pain, especially in his ears. His temperature was 99.8° and his pulse rate 124. The hands, ears, and, to a lesser extent, the toes presented a striking appearance. Almost the whole of the lobe of each ear was a deep purple colour which merged gradually into a black scarred gangrenous edge. The hands were not equally affected, the left being the more seriously involved. The distal phalanges of the first, second, third, and fourth fingers were deeply gangrenous and, as in the ears, the colour changed from deep black at the fingertips through various shades of purple and red to normal skin-colour at the base. The little finger was most affected on both hands, almost the whole of the digit being involved in the gangrenous process. The surface warmth of the skin was apparently normal right up to the edge of the gangrenous area. The toes were similarly but less affected, and there were one or two purple blotches on the dorsal surface of

each foot. There was gross blood in the urine but no free haemoglobin. This haematuria lasted for ten days after admission, and a trace of albumin persisted for three weeks.

The appearance of the hands and ears suggested the possibility of ergot poisoning, but careful investigation of the history revealed no probability of this. The patient had never eaten rye bread and he disliked cereals in any form. His history did not suggest lead poisoning. He was accustomed to drinking ale. He had never complained of having "cold fingers" while bathing or during wintry weather, and on inquiry it was found that no member of his family had ever experienced Raynaud's phenomenon.

He remained irregularly feverish up to a maximum of 100.5° for ten days, and during the remainder of his five weeks in hospital he had an occasional rise in temperature to 99°. His pulse rate varied from 84 to 112. Examination of his blood showed no abnormality. The red cells numbered 4,425,000 and the leucocytes 7,185, with 86 per cent. haemoglobin and 221,000 blood platelets. The differential count was: polymorphonuclears, 62 per cent.; lymphocytes, 30 per cent.; monocytes, 6 per cent.; and eosinophils 2 per cent. The blood calcium amounted to 11.1 mg. per 100 c.cm., and the Wassermann reaction was negative. X-ray examination of the chest showed a rather prominent aortic knob attributed to aortic sclerosis, but x-ray examination of the limbs showed no visible arterial calcification. Radiographs of the kidneys after injections of uroselectan revealed no definite filling of either kidney, but apart from the haematuria there was no evidence of disease of the kidneys.

For about two weeks the pain in the ears was so acute as to necessitate sedatives, especially at night. Trinitrin tablets were given thrice daily in the hope of promoting vasodilatation. Adexolin capsules were also given thrice daily, and the hands were kept protected in cotton-wool. The condition steadily improved, but the tips of the fingers most affected became jet-black with sharp lines of demarcation. Two of the finger-tips became septic in spite of our precautions, but slowly healed without loss of tissue. The edges of the ears shrivelled, but the circulation gradually became restored with little obvious deformity.

While my patient was in hospital Dr. Thomas Killen kindly gave me the opportunity of seeing a child who had been admitted to Larne District Hospital with peripheral gangrene of very sudden onset. The following is a brief note on the case kindly contributed by Dr. Martha A. Hay, house-physician, Larne District Hospital:

Case II

"A boy aged 5. On admission his hands and feet were painful, swollen, very cold, and almost blue-black in colour. All the fingers were affected from the tips of the metacarpophalangeal joints. The toes and soles of his feet were discoloured, and there were patches of cyanosis of the calves of his legs and half-way up his thighs. There was no sign of any circulation in the affected parts. The night before he was admitted his fingers had been red and painful; the next morning they were discoloured. His father took him to a doctor, and while waiting in the consulting-room the boy's feet began to get blue and the patches appeared on his calves and thighs. While in the waiting-room at the hospital his ears became affected in the same way.

"His temperature on admission to hospital was 100.4° F. Reflexes were normal; pupils reacted to light and accommodation; heart sounds were regular—no murmurs; chest and abdomen showed no physical signs of disease; urine was free from sugar and albumin. There was slight epistaxis on the second day in hospital.

"One-quarter of a trinitrin tablet was given hourly, and the extremities were wrapped in cotton-wool. The next day the colour of the affected parts had improved, with the exception of the third, fourth, and fifth fingers of the left hand, which remained black and had become blistered. Three fingers gradually became less blue until only the tips of the fourth and fifth fingers remained discoloured."

The father was a pigeon fancier and stated that the child had been found eating the pigeons' food. Professor J. Small of Queen's University kindly examined a specimen of the food but found no evidence of ergot. I hear that the patient has made a complete recovery.

Discussion

In the absence of diabetes, gross arterial sclerosis, a history of Raynaud's phenomenon, of any acute severe infection, or of ergot poisoning, it was considered that the cases must be classified in that somewhat rare group, peripheral gangrene without obvious cause. Lewis and Pickering (1934) have classified cases of bilateral gangrene of the digits, apart from the true Raynaud's phenomenon, into: (a) bilateral gangrene of digits in the young and with infection; (b) bilateral gangrene of digits with haemoglobinuria from cold; (c) bilateral gangrene of digits in the elderly and with disease of small arteries. None of the cases which they describe so accurately appear to me to be identical with the cases here recorded. A review of the available literature shows that most of the cases reported can be classified as Lewis and Pickering suggest, but some remain obscure in origin. O'Leary (1937) describes three cases of peripheral gangrene following pregnancy: one of these patients had had a single dose of ergotamine tartrate, which was not considered to be a factor in the gangrene. Many cases have been recorded following pneumonia in children (Uhr, 1938; Smith, 1932; Loubat *et al.*, 1937; Rohmer, 1934); and occasionally in adults (Pagniez, Plichet, and Koang, 1933; Dufour, 1901; Nielsen, 1878). It has also been described following scarlet fever (Cust, 1937; Blumberger, 1936; Dick, Miller, and Edmondson, 1934). In his paper on gangrene in scarlet fever and diphtheria Blumberger says it is a very rare complication, usually massive, even affecting a whole limb. He quotes Schick as having seen only one case in diphtheria in all his experience. It is most apt to occur in the third week of either disease. Bartsocas and Grigoriou of Athens (1937) and Winstead (1935) have described a fatal case of gangrene following measles in a child aged 2, and Stoesser and Lockwood (1938) have recorded a case complicating chicken-pox and associated thrombocytopenia. A gangrenous form of purpura was described in 1884 by Martin de Grimard in his Paris thesis, to which attention is drawn by Paul Chevallier (1937). Other blood changes are occasionally recorded, as in Gorter and Broekema's case (1938), in which eosinophilia in a child aged 2½ was found associated with cyanosis, gangrene of the feet, and increased intracranial tension for no obvious cause. Symmetrical gangrene due to ergot may follow medicinal doses of the drug as in the case recorded by Yater and Cahill (1936), in which gangrene followed the injection of ergotamine tartrate administered for the relief of the pruritus of jaundice. Lead may apparently cause a syndrome: Vigdortschik (1934) has described such a case, and considers that the percentage of gangrene was ten times higher in lead workers than in others. Presumably such cases are associated with arterial disease. Sometimes the cause in recorded cases has remained completely obscure, as in that described by Weissenbach, Martineau, Malinsky, and Brocard (1935), when a man aged 31 developed patches of gangrene in the tips of his fingers, some of the affected fingers having several discrete areas of gangrene separated by tracts of apparently healthy skin. In the absence of demonstrable cause the authors recorded the case as one of arteriolar infection of obscure origin. Mienicki (1934) described the case of a married woman aged 24 who in November, 1933, developed patches of gangrene in the

right forearm which healed with much scarring in the course of two months. In May, 1934, she developed the same condition in the other arm. *Staphylococcus aureus* was found, and the patient showed increased sensitivity to staphylococcal vaccine.

The patients whose cases are here reported are now said to be in good health. It will be interesting to determine whether either of them develops the Raynaud syndrome as a sequel to the acute attack.

Summary

Two cases of peripheral gangrene of ears, fingers, and toes are described; no cause could be found, and both recovered.

A brief review of relevant available literature shows that, apart from arteriosclerosis, diabetes, and Raynaud's disease, peripheral gangrene may arise as a result of ergot and lead poisoning, pregnancy, pneumonia, scarlet fever, diphtheria, measles, chicken-pox, and purpura. In some recorded cases no cause for the condition could be found.

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PANIC STATES IN CIVILIANS

BY

HARRY STALKER, M.D., M.R.C.P.Ed., D.Psych.

Senior Assistant Physician, Royal Edinburgh Hospital for Mental Disorders; Lecturer in Psychiatry, University of Edinburgh

There has been much discussion about the possibility of the war causing an increase in neuroses and psychoses in civilians who are exposed to difficulties and privations and who may be open to direct attack. However, Henderson (1940) believes that the danger of civilian breakdowns is not so great as is sometimes feared, and, commenting on his experience up to the present, says: "All people, men and women, are standing up to the strain of war conditions with fortitude, and although unfortunate and tragic cases occur, yet, on the whole, the position is accepted with equanimity."

Our experience in the Jordanburn Nerve Hospital is that these breakdowns have been uncommon and have occurred essentially in predisposed persons, who have long suffered from emotional instability, neurotic symptoms, and so on, but were able to make a reasonable adaptation. The war has been the last of many difficulties, and it has immediately precipitated the illness. No breakdown has yet been seen in a civilian who was of well-adapted personality before the war. On the other hand, I have tried to exclude from the series patients in whom the war circumstances were only incidental and not the acute precipitating factor. About seven cases remain—civilians whose first actually incapacitating breakdown appears to have been acutely