Discussion

This case raised several problems. Without fever or palpable lymph nodes and spleen it is probably impossible to diagnose glandular fever clinically. The history and signs suggested enteric fever or leptospirosis. Until the white-cell count was done the diagnosis was not suspected. No history of sore throat or swelling of the neck was admitted by the patient or her relatives. Because of her rapid recovery it must be assumed that she was in the late stage of the illness, any premonitory signs being overlooked—in contrast with Crowther's patient, who was desperately ill. As Tidy (1950) says, diagnosis is difficult in a patient who some time after a pyrexial attack presents with lymphocytosis, for either this or glandular swelling may persist for some months.

A surprising feature was the normal cerebrospinal fluid. This, however, is not incompatible with involvement of the brain substance, especially in virus disease. Greenfield (1947) holds that the diagnosis of encephalitis during life, especially in sporadic cases, depends more on elimination than on finding specific changes in the blood or cerebrospinal fluid. Many diseases may simulate encephalitis, and it may be impossible to make a definite clinical diagnosis.

The cerebral signs could be due to toxæmia from preceding generalized infection with the virus, if such be the cause of infectious mononucleosis. On the other hand, the normal cerebrospinal fluid could be accounted for by an acute toxic encephalopathy as distinct from meningitis (Brain, 1947).

The neurological manifestations of this disease, however, are varied and bizarre. There is no constant order in which the ordinary manifestations and the neurological symptoms develop, and they may vary in their comparative severity. They may occur simultaneously, as in the case of Epstein and Dameshek (1931), or at some interval after the systemic signs, as in Geliebter's (1946) and Crowther's (1951) cases; or the fever may have run its course, to be followed by nervous symptoms, or the latter may precede the former. Tidy (1950) says that in the more severe neurological forms the glandular swelling tends to be slight and may be overlooked.

The interpretation of the Paul-Bunnell reaction in neurological cases needs careful consideration, especially in the absence of other evidence. So far as is known, it is not positive in high titre in any other disease (Tidy, 1951, personal communication). In a disease with so bizarre a clinical picture, however, it is equally difficult to assess a negative reaction. Many missed cases or cases not diagnosed might have proved positive on repetition later in the disease.

Neurological involvement in a disease which essentially affects the reticulo-endothelial system is of puzzling interest. It may occur because the normal cerebrospinal fluid contains a varying number of lymphocytes and large monocytes, derived from the meninges and the brain tissue itself, and entering the cerebrospinal fluid via the perivascular spaces. Again, van Bogaert (1933) believes that post-infective encephalomyelitis is allergic in origin, and Rich (1946-7) has demonstrated the vascular basis of hypersensitivity. Miller (1951), too, has summarized the evidence, and thinks that the post-infective encephalomyelitis of measles, etc., polyarteritis nodosa, and cerebral serum sickness have a common allergic basis. He feels that the post-infective group is a manifestation of hypersensitivity to some antigenic product in a variety of infections chiefly of virus origin and acting selectively on the nervous system, just as glomerulonephritis is said to be due to streptococcal hypersensitivity.

The multiplicity of the nervous symptoms in glandular fever suggests, too, an allergic origin; for there is no known virus infection, apart possibly from poliomyelitis, which produces such capricious involvement at every level of the nervous system. In other words, the basic pathology of the nervous complications, or even of the disease itself, may be primarily a disorder of blood vessels—that is, an allergic

vasculitis. Although antihistamine drugs were not used, it might be of interest to try their effect in future cases. Chloramphenicol has been tried, but in the absence of a known cause its use must remain empirical except in dealing with secondary invaders.

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Medical Memoranda

Wandering Spleen During First Decade of Life

This is a comparatively rare condition. Most reports in the literature are confined to cases in which torsion has occurred. Abell (1933), in a review of the literature up to 1933, reported 95 cases with torsion. Emmett and Dreyfuss (1943) reported a further 25 cases between 1933 and 1943. At the Mayo Clinic only 2 out of 646 splenectomies performed prior to 1934 were for this condition.

The aetiology is that during the development of the stomach, when the dorsal wall rotates to the left it carries the greater omentum, in which the spleen develops, with it. If the attachments between the spleen and stomach are deficient the spleen gradually increases its range of movement (Truesdale and Freedman, 1938). Contributory factors are enlargement of the spleen and visceroptosis. In Abell's series torsion occurred most often between the ages of 20 and 40, with a preponderance of females but not a significant majority of multiparae. Only one case occurred in the first decade of life.

The case here reported is of interest in that it presented as an abdominal tumour and was first noticed by the parents of the child during the second year of its life.

CASE REPORT

An African female child (Muzinza) aged about 10 was brought to hospital by her parents, as she had an abdominal tumour which they thought was gradually increasing in size. They were emphatic that they had first noticed the tumour on the right side when the girl began to walk during her second year. Living in a malarious area, they knew the normal position of an enlarged spleen. Apart from occasional fever, presumably malaria, the child had never been ill.

On examination she was seen to be rather thin and slightly anaemic. A visible protuberance was found to be caused by a tumour stretching from the umbilical to the right lumbar area. The tumour was smooth, firm, and painless even with movement. Repeated examinations of stool, urine, and blood showed no parasites. Her haemoglobin was 70% (Lovibond).

It was decided to perform an exploratory laparotomy. A lower right paramedian incision was made, this being the site of the tumour at the time. On incising the peritoneum the spleen presented and was readily delivered. Its attachments consisted of a grossly elongated pedicle and the omentum, which was adherent to the spleen in two places. The vessels in the omentum were very dilated, and it appeared as if a collateral circulation had been estab-

lished. No accessory spleen was felt. Splenectomy was performed. The spleen, which was of normal shape, weighed 280 g. The patient made an uninterrupted recovery.

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Trauma and Fibrosarcoma in the Foot

Fibrosarcoma in the extremities is uncommon: its occurrence in the foot is rare. Of the 24 cases of fibrosarcoma in the extremities collected by Bick (1938), only three were in the foot. In the present case the history of trauma is noteworthy.

CASE REPORT

A married woman aged 36 first attended hospital in April, 1946, complaining of pain and swelling of the first right toe, which had developed nine months previously, shortly after her husband had trodden on this foot. She also gave a history of having dropped a file on the foot two years earlier. Inspection showed the shape of the foot to be good, but there was a cystic swelling on the fibular side of the first toe, just distal to the metatarso-phalangeal joint. Movements of the joint were limited by pain. An x-ray film showed cystic spaces in the head of the first metatarsal, a satisfactory joint space, and complete degeneration of the head (see illustration). The patient was booked for

Radiograph of the fibrosarcoma.

"removal of the ganglion between the first and second right toes, with constructive removal of the head of the first metatarsal."

One year later she attended hospital complaining of pain and swelling. This increased gradually, and in November, 1947—19 months after her first attendance—she reported that the pain had become "suddenly acutely severe," especially on the plantar aspect of the first toe.

The swelling had markedly increased only in the preceding two or three weeks. She was admitted to hospital.

On examination the first right metatarso-phalangeal joint was swollen and there was a small cystic swelling in the first space, which was not fixed superficially, was probably not fixed to deep structures, and could be moved transversely only. It was tender to the touch, but not painful. The swelling appeared to extend along the first metatarsal. All movements at the metatarso-phalangeal joint were limited by severe pain. The blood Wassermann reaction was negative.

At operation a cystic swelling was found in the first space, white, tense, and elliptical—apparently of gelatinous consistence. It extended proximally along the fibular aspect of the first metatarsal and deeply into the foot. Only after removal of a considerable quantity was the extent of invasion appreciated, and no further exploration was undertaken. The capsule of the metatarso-phalangeal joint was completely absent, and the head of the metatarsal, while quite firm on its articular margin and apparently on its plantar aspect, showed trabeculation which produced cystic spaces. The mass of material seemed to be of capsular origin, and in

appearance suggested myxoedematous degeneration. Part of the soft paper-like proximal phalanx was removed. The incision was closed, there having been much bleeding into the foot, and a firm bandage was applied. The report on the material from the foot was: "The main portion of the tissue is fibrous, but there are also areas with more or less densely packed small round or spindle cells advancing into the lymph spaces of the fibrous tissue. The appearance is that of a fibrosarcoma." Radiographs of spine and chest showed no metastases.

In view of the state of the foot revealed by operation, and the pathologist's report, an amputation was performed 7 in. (17.8 cm.) below the knee, and the patient was discharged a month later, apparently in good health, after measurement for an artificial limb. When last heard of, 45 months after operation, the patient was in good health.

COMMENT

It is accepted that the important predisposing factor in the development of carcinoma is chronic irritation, be it mechanical, repetitive, or chemical; and, despite one's acquaintance with the large number of injuries which do not end up with malignant change, sooner or later one is haunted by the part trauma appears to play in the development of sarcoma. In assessing the part played by trauma, it is helpful to bear in mind Walker's (1941) table: (1) Injury may cause disease. (2) Injury may precipitate disease. (3) Injury may aggravate disease. (4) Disease may promote injury (Ewing's "traumatic determinism"). (5) Injury may reveal disease. (6) The association may be pure coincidence. (7) In post-traumatic debility and invalidism sundry maladies and degenerations may be installed.

Sarcomata appear to follow a single injury, not always severe, and the features injury, persistent swelling, and/or haematomata, in the absence of fracture, are commonly found. The malignant degeneration usually takes place in the period of body growth, but not always. The striking feature to my mind is the story of an injury—to testicle, skull, limb, for example—causing temporary discomfort, which appears to begin to subside under whatever local treatment is given, but which, usually after a few weeks, rapidly becomes accentuated and the swelling more pronounced. Radical treatment at this stage does not usually succeed in preventing metastatic deposits. The absence of metastases is regarded as this particular patient's great and rare good fortune. The sequence of events, related so precisely by her, warrants the assumption that trauma played the decisive part in the development of her sarcoma.

Repair takes place by means of cell proliferation and by factors restoring function—presumably factors related to the part's function, affecting the differentiation of young cells—and the rate must similarly be controlled. Shaw (1935) notes that young cells of the proliferative stage of repair obtain their energy by glycolysis, whereas the differentiated cells obtain it by oxygenation from the blood stream. Thus, the early undifferentiated cell of repair resembles the cancerous growth in this respect. The view is advanced that, where function is unimpaired, stimulus to proliferation may result in malignant change—for example, (a) carcinomatous changes occurring in the sinus of chronic osteomyelitis; and (b) neoplastic change due to the long exposure of apparently healthy skin to tar preparations used in the repair of ulcers and to heal skin conditions.

As the character changes develop in only a minority of cases it must be assumed that other factors are also involved.

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