sheath of one of the intercostal nerves, but the very high C.S.F. protein figures and the complete lack of recovery of reflex function below the level of the lesion suggest that extensive necrosis of the spinal cord occurred. Such widespread damage cannot reasonably be attributed to the small amount of efocaine which could have entered the spinal cord via the perineural sheath.

The clinical picture and C.S.F. changes can be explained on the basis of necrosis through interference with the blood supply of the spinal cord. The injection of efocaine close to an intercostal vein might have produced thrombosis which spread into the spinal cord and caused intramedullary thrombosis with necrosis. This view is supported by the necropsy findings in the patient reported by Angerer *et al.* (1953). Forty-four hours after the injection of efocaine they found that the intercostal vein immediately beneath the needle puncture was acutely inflamed and filled with recent thrombus. The spinal cord itself showed extensive necrosis, with evidence of acute inflammation.

The mode of action of efocaine has been reinvestigated by Mannheimer *et al.* (1954), and they have shown that the substance produces necrosis of both nerve and muscle of similar severity to that caused by the injection of alcohol and phenol. These findings, together with the published reports of gross neurological damage, lead to the conclusion that the clinical use of efocaine is no longer justifiable.

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Medical Memoranda

Long Survival in Renal Carcinoma

There are many gaps in our knowledge of the natural life history of malignant tumours, and renal cancer seems to be particularly unpredictable. In the patient we are here reporting, at least a quarter of a century elapsed before the disease caused death, and treatment was refused for a decade after the tumour was clinically apparent.

CASE REPORT

In 1930 a Jewish business man, aged 31, began to experience pain in the left flank and haematuria. The pain was episodic until 1934, when its severity so increased that he sought admission to hospital. A mass was then discovered in relation to the left kidney, of such a size that it caused obvious deformity of the stomach on radiological examination.

Surgical treatment was strongly urged, but the patient stubbornly refused to submit to operation until 1943. The operation disclosed a rounded tumour which replaced the lower pole of the kidney and was "much larger than the renal tissue proper." There was no involvement of the renal vein, or any evidence of metastases. Nephrectomy was carried out.

Pathological examination of the tumour by the late Colonel Harvey showed the tumour to be a glandular carcinoma (hypernephroma) of clear cell type. Its structure was unusually glandular, and of the small alveolar and tubular type rather than the larger and more cellular masses more common in this tumour. There was considerable polymorphism of the cell nuclei, suggestive of degenerative forms. Though mitotic activity was not recognized, the tumour had spread into the fibrous tissue separating the growth from the kidney. In some areas haemorrhage and necrosis were marked.

The patient remained relatively well until 1949, when he began to complain of vague abdominal discomfort. Sundry investigations were negative; but in 1952, when he came under our joint care, there was a mass in the left flank and some enlargement of the liver. Barium enema revealed a filling defect suggestive of extrinsic pressure in the descending colon, and a radiograph of the chest showed a rounded opacity in the right mid-zone. As much for diagnostic as therapeutic reasons, he was advised to undergo laparotomy.

At operation extensive malignant disease was found throughout the abdominal cavity, including a large fixed mass involving the descending colon and the adjacent part of the posterior abdominal wall. Numerous secondary growths were present in the liver, including a massive growth in the left lobe. It was found practicable to remove the pericolonic tissue and so relieve the obvious obstruction.

Histological examination showed the tissue to be metastatic hypernephroma. There was a remarkably good immediate recovery, and he was able to return to the business he had conducted so successfully throughout the years; thereafter his condition deteriorated; but in spite of the extensive metastases he survived for another two years, and died in September, 1954.

COMMENT

It is notoriously difficult to forecast the expectation of life in patients with renal tumours. Herbut (1952) has stated that symptoms and signs may be prolonged up to 35 years; and Griffiths and Thackray (1949) reported a 10-year survival rate of 21% after nephrectomy. The "best" American figures—those of Priestley (1939) at the Mayo Clinic—record a 10-year survival in 27.3% of 395 cases. Nevertheless, survival for 25 years despite the well-substantiated existence of renal carcinoma, as in the present case, seems to us most exceptional. Possibly the phenomenon was thrown into sharper relief by a number of contemporary cases in which the course was very rapid.

The corollary is obvious—that great caution must be exercised in venturing a prognosis in renal tumours, both with and without operation, and that even greater caution is needed when claims are made for the efficacy of treatment.

We are indebted to Dr. Alister Matheson for letting us have access to his careful records regarding this patient.

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Case of Bilateral Calcification of the Breasts

The deposition of calcium in the soft tissues of aged subjects is not uncommon, particularly in those parts where fibrous tissue normally predominates. In the breast, fibrous tissue is laid down in varying amounts after the menopause; only very rarely, however, does it go on to calcification so extensive as to be detectable both clinically and radiologically. The following is a case discovered accidentally shortly before the patient's death.

CASE RECORD

A woman aged 85 was admitted to hospital with a three-weeks history of pain in the left groin. Her private practitioner suspected the presence of a fatigue fracture of the neck of the left femur, no history of trauma being elicited. This was confirmed radiologically. Examination of the

breasts to exclude a primary malignant tumour revealed hard craggy mobile masses in the lower and outer quadrants of both breasts. The skin overlying them was normal, and no glands were palpable in the axillae or the supraclavicular fossae. Despite the remarkable hardness of the tumours, they were thought to be the result of fibro-adenosis. A routine chest x-ray examination revealed no intrathoracic abnormality, but the lower and outer quadrants of both breasts were found to be involved by extensive calcium deposits.

The patient underwent pinning of her femur, but succumbed to a hypostatic pneumonia ten days later. Specimens of her breast tissue were obtained at necropsy. The sections showed that the breasts had been practically replaced by fibrous tissue; large calcium deposits were irregularly scattered throughout the portions clinically involved.

COMMENT

It is unlikely that the breasts had previously been affected by fibro-adenosis; if they had, no remnant of such a condition was evident on microscopy. Such symmetry as was displayed here is, in any case, unusual. This symmetry may, however, be the clue to the aetiology of this condition. The pendulous unsupported breasts weigh heavily on the fibrous tissue, as they rotate downwards and outwards in the normal subject. Prolonged stresses and strains occurring in an abnormally fibrous breast are likely to exert their maximum effect on the lower and outer quadrant. Elsewhere in the body, fibrous tissue subjected to chronic stress not infrequently undergoes calcification; and it may be that a similar mechanism is responsible for the interesting distribution of calcium deposits, of which the above is an example.

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Varicella with Neurological Complications in an Adult

Although chicken-pox is so common, involvement of the nervous system is extremely rare. In a study of 2,534 patients with varicella, Bullowa and Wishick (1935) found five cases of encephalitis and three cases of meningitis. Of the 108 cases with neurological complications described in the literature, in only eight was the patient over the age of 20 years, and about 90% were in the first decade of life.

CASE REPORT

An unmarried cashier aged 21 was admitted to hospital in September, 1952, with a severe attack of varicella, the rash of which had appeared almost three weeks previously. About a week after the onset of the illness she began to vomit once or twice a day, and continued to do so for two weeks. Twelve days after she had first noticed the rash she found that she was seeing double and that she had to close one eye in order to see clearly. Her past history was irrelevant. She had been vaccinated in infancy.

On admission she did not look unduly ill. She was co-operative and mentally clear. Her temperature was 101° F. (38.3° C.). She had a profuse rash on the trunk and limbs and to a less degree on the face. The lesions had a typical centripetal distribution and were mainly in the scab stage, but there were some pustules. There had been obvious haemorrhages into the more recent lesions.

Examination of her nervous system revealed no neck or back stiffness. Her pupils were equal and regular and reacted to light and on accommodation, but she was unable to abduct her right eye beyond the central position, and on looking to the right she had diplopia, the false image being projected to the right of, and level with, the

true image. All other movements of the right eye and all movements of the left eye were normal; other cranial nerves and the disks and retinae were normal; tendon reflexes in the upper limbs were present and equal on the two sides; abdominal reflexes were present. The knee- and ankle-jerks were absent in both legs; plantar reflexes were flexor. Sensation to light touch, pain, heat and cold, vibration, and posture was normal. A coarse tremor of the outstretched hands, more marked on the right than on the left, was noticeable, but no intention tremor was present and there was normal co-ordination of movements in all limbs; no muscle weakness or wasting was found. There were no abnormal physical signs in any other system.

Investigations.—A full blood count was normal. The Wassermann reaction and Paul-Bunnell and Widal tests were negative. Blood culture was sterile. There were no pathogenic organisms in nose and throat, urine, or faeces. The C.S.F. on admission contained 110 mg. of protein per 100 ml.; leucocyte count, chlorides, and sugar were normal. The C.S.F. showed practically no change during the next five weeks, and even on discharge the protein was still 110 mg. per 100 ml.

Crystalline penicillin, 500,000 units six-hourly, was given, but she continued to have a swinging temperature, and on the fifth day of treatment the penicillin was discontinued and chloramphenicol, 500 mg. six-hourly, was given for seven days. Though the temperature subsided two days later, the impression was formed at the time that the improvement was coincidental and not in fact due to the treatment.

Towards the end of the second week in hospital it just became possible to elicit the knee- and ankle-jerks on reinforcement, and by the fifth week the reflexes were considered to be within normal limits; at about the same time the paresis of the right eye was beginning to show some improvement. Despite the improvement she was having mild attacks of depression with bouts of crying because she felt that her friends would laugh at her as she had a squint. She was discharged home on November 8.

When seen again two months later she complained of feeling nervous but was no longer depressed. She had occasional double vision and the right eye still showed some weakness of abduction; all other cranial nerves were normal and her tendon reflexes were present and equal. When last seen in October, 1953, she was considerably improved, had lost her nervousness, and had gained over 14 lb. (6.4 kg.) in weight. She had no diplopia and all movements of both eyes were full.

COMMENT

That nervous manifestations do not occur more often is surprising when it is considered that the causal organism of varicella is closely allied to, if not identical with, that of the neurotropic virus of herpes zoster. In the great majority of cases nervous complications occur between four and ten days after the appearance of the rash.

The C.S.F. findings have been recorded in only about 50% of published cases; the protein content was normal or slightly increased in 75%, but in the remainder there was a considerable increase; the leucocyte count was within the normal range in most cases.

The prognosis is good; about 90% of the patients recover. Residual defects are unusual, but are most common when ocular signs are the prominent or only manifestation of nervous system involvement.

I am indebted to Dr. Ernest Evans for his valuable criticism.

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