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.

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