Asymmetrical Rheumatoid Arthritis after Poliomyelitis

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An outstanding feature of rheumatoid arthritis is its tendency to be bilateral and symmetrical. This is one of the generally accepted diagnostic criteria, as suggested by the American Rheumatism Association (Ropes et al., 1958). Jacqueline (1953) and Thompson and Bywaters (1962) have described unilateral rheumatoid arthritis, sparing the paralysed side, after hemiplegia. The only report of similar sparing of a paralysed limb after lower motor neurone paralysis is that by Kamermann (1966), though Heberden's nodes formation limited to the non-paralysed hand has been described after lower motor neurone paralysis by McEwen (1940), Hench (1940), and Stecher and Karnosh (1947) and after hemiplegia by Coste and Forester (1955), Forester (1955), and Winter (1952).

This paper records 12 cases of rheumatoid arthritis developing in patients previously paralysed by poliomyelitis, in whom the paralysed limbs have been spared totally or partially by the arthritic process.

In addition, a woman of 84 was seen who started with low-grade rheumatoid arthritis at the age of 57. She had had a virtually complete right hemiplegia since encephalitis at the age of 2, and the arthritis was almost entirely confined to the normal left arm and leg.

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During the course of this investigation several patients with osteoarthritis after poliomyelitis were also seen. On superficial analysis they would appear to fit in with the findings of Glyn et al. (1966) that osteoarthritis predominantly affects the non-paralysed limbs.

Case Material

Cases 1 and 2 were seen in clinics at the London Hospital. A search through the hospital records brought to light Cases 3 and 4; the former patient had died and the latter had removed and could not be found. Cases 5 and 6 were contacted through the co-operation of the British Polio Fellowship, who published a notice in their Bulletin asking for anyone with arthritis and polio who was willing to volunteer details. These were the only two with rheumatoid arthritis of those who replied, and they were seen by me.

These six cases formed the material for a communication to the Heberden Society in May 1966. Subsequently, several physicians offered details of similar cases known to them; these are Cases 7–12. I did not examine these patients but have seen the x-ray pictures. I know of no other cases of rheumatoid arthritis occurring after poliomyelitis. All but one patient (Case 10) were women.

Dr. A. J. Popert (Droitwich) sent details of a patient with atypical polyarthritiis who had polio at the age of 5, resulting in a weak left leg and flail left foot. At the age of 24, arthritis began in the left knee, spread rapidly to the right knee, and then became generalized. She is anodular and seronegative. There are marked sacroiliac changes. Now, at the age of 32,
there are few changes in the upper limbs or left leg, but the disease is still active in her neck, right knee, and right ankle.

Findings
The Table summarizes the salient features of each case. It can be seen that the greater the severity of the paralysis the more pronounced the sparing of the joints of that limb. Thus very little arthritis was discovered in flail limbs. In fact, it seemed that it was the joints normally controlled by the paralysed muscles that escaped the arthritis (Figs. 1–4). There was good correlation between the clinical and radiological findings.

Subcutaneous nodules were present in three cases (Nos. 3, 7, and 9). In Cases 7 and 9 the nodules occurred on the non-paralysed limbs but not on the opposite, paralysed, side. This was particularly striking in Case 9.

Discussion
These findings illustrate that joints controlled by paralysed muscles show less involvement and destruction when rheumatoid arthritis develops. This is in marked contrast to the denervated neuropathic joint in which hypertrophic and destructive changes are very severe.

Of particular interest was the observation that subcutaneous nodules did not appear on the paralysed limbs. In their case in which an arteriogram was taken, Thompson and Bywaters (1962) found abnormalities on both sides, but these were more intense on the non-paralysed side. It would be of interest to have had similar investigations in this series, but in those patients under my clinical supervision this procedure did not seem worth while.

In their consideration of the protective effect of the hemiplegia Thompson and Bywaters (1962) came to the conclusion that the most reasonable explanation for the immunity of the paralysed side to the development of rheumatoid arthritis was the relative lack of use and function. They quoted some studies of vascular responses which were the same in the hemiplegic and non-hemiplegic limbs. Kamermann (1966) also regarded the protective effect as being due to comparative disuse rather than to the neurological lesion.

Castillo et al. (1965) have shown that the development of cystic erosions in rheumatoid arthritis is related to the degree of physical activity. Van Dam (1964) found no significant difference between the right and left hands in rheumatoid arthritis with regard to cartilage thinning, but erosions and cysts were more frequent on the right. In a review of 300 consecutive rheumatoid patients Glick (1966) attempted a correlation between right- or left-handedness and the severity of the disease in the two wrist joints and found just significantly more severe arthritis in the wrist of the dominant limb. In patients whose work was classified as heavy, and where marked asymmetry might have been expected if
Adverse Reactions from the Illicit Use of Lysergide

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Lysergide (lysergic acid diethylamide; L.S.D.) is a drug with marked effects on the mind. Illegal use of the drug in the United States has led to reports of untoward and adverse reactions (Cohen and Ditman, 1962, 1963; Ludwig and Levine, 1965; Frosh et al., 1965). Severe abnormal reactions have also occurred in the United Kingdom when the drug has been obtained illicitly and taken without medical supervision, and some are reported here.

Case 1

A youth aged 19 was educated at a grammar school but failed G.C.E., and after leaving school at the age of 16 never worked. He then lived a vagrant existence and at different times took marijuana, oral amphetamines, intravenous heroin and cocaine, and methylamphetamine hydrochloride (Methedrine) intramuscularly. He had always obtained drugs illegally. When he first took L.S.D. he had a short-lived paranoid psychotic reaction.

"I had a bad trip the first time I took it. I thought I was in a different place to where I was. I was very frightened; I thought people were coming after me. All these red people were coming after me for some reason. I was very scared and ran out of the room. I thought they would get me. I did not know if they were the devil's people or something. I was running about the streets scared. I don't know what happened for about four hours; I was very frightened and running about the streets."

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