LENGTHY SURVIVAL IN SYSTEMIC LUPUS ERYTHEMATOSUS

A CASE REPORT

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Marian W. Ropes, in the Walter Bauer Memorial Issue of *Medicine* in 1964, states that the concept of the natural history of systemic lupus erythematosus, even without steroid therapy, has changed dramatically. 'The old picture of a relatively unremitting course, terminating in most patients within a few years, has gradually been replaced by one in which remissions of some degree occur in the majority of patients, and 30% or more live over 5 years.'[1]

A case is presented of survival after 15 years. The patient is well after 13 years continuous steroid therapy, but the presence of LE cells can still be demonstrated. She has no features of hypercortisonism.

It is believed that she was the first case of this disease in Cape Town diagnosed by the demonstration of LE cells and treated with cortisone. In a subsequent pregnancy there was no exacerbation of the disease and she delivered a normal infant.

CASE REPORT

The patient, a Cape Coloured woman with 2 children, was born in 1917. She recalls being ill in 1933 with swelling of the legs, feet, hands, and face, accompanied by difficulty in passing urine for a couple of days. She was in bed for 8 months. No records or objective features of this illness can be obtained, so its nature remains obscure.

1950: Polyarthritis

Joint pains developed insidiously with an indefinite relationship to a recent miscarriage. Pains occurred in the fingers, wrists, toes, ankles, and knees every few days. At times the fingers were swollen. Outpatient notes in May 1951 mention that she fairly often got attacks of 'sore throat'.

1951: Pleurisy with Effusion; Drug Fever

On 1 August 1951 she attended the medical outpatient department at Groote Schuur Hospital, with left pleuritic pain, feverishness, and sweating of 10 days' duration. Chest X-ray showed a left anterior costo-phrenic effusion. The finger joints were swollen. During August 1951 she felt weak, had anorexia, lost weight, and the joint pains worsened. There was some improvement during September 1951. In October 1951 left pleurisy, feverishness, and anorexia recurred, leading to her first admission to Groote Schuur Hospital. There were clinical and radiological signs of left pleural effusion. No tubercle bacilli were detected in the effusion or in 3 gastric lavages. The ESR was 64 mm. Westergren in 1 hour.

As tuberculosis is often thought to be the commonest cause of idiopathic pleural effusion, antituberculous therapy with streptomycin and PAS was commenced. After 1 week the temperature rose to 104°F and persisted. When the drugs were discontinued, this high pyrexia promptly subsided. She improved, the effusion decreased clinically and radiologically, and she left hospital of her own accord.

1952: Dermatitis; Secondary Pyogenic Skin Infection and Adenitis; Pyrexia; Loss of Weight; Alopecia; Demonstration of LE Cells

During 1952 her health deteriorated. She felt very weak, tired, cold, anorexic, and complained of generalized bodily pains and ill-defined abdominal pain. In April a rash appeared on her face and her scalp hair started to fall out. The buttocks became painful followed by skin ulceration. A septic scalp lesion was followed by a painful swelling behind the right ear. She became progressively more ill and weaker, and her general practitioner referred her for urgent readmission on 4 April 1952.

She was emaciated, weak, and extremely ill, too ill and weak to be weighed accurately. Temperature 100°F, pulse rate 130 beats per minute, and respiration rate 25 beats per minute. She lay on her right side owing to a saucer-sized ulcer over the sacrum. The skin over other pressure points was very thin. There was a scaly erythematous rash on the 'butterfly' area of the face and nose, extending to the ears. The nose was blocked. Erythematous lesions were present on the fingers. Scalp hair was patchily diminished. A scalp abscess was accompanied by an abscess in the right posterior auricular lymph nodes.

The mucosae were very pale. There were erythematous lesions on the palate. There was no objective arthritis and all other systems were clinically normal. Blood pressure 100/80 mm.Hg.

Investigations. Urine contained 1+ albumin, 10 - 20 cells (thought to be renal epithelial cells) per high-power field, a few WBCs, and very scanty hyaline casts. Hb. 6·3 G/100 ml.;

PCV 23%; WBC 6,000 per cu.mm. with 76% neutrophils, 20% lymphocytes and 4% monocytes. ESR 64 mm. Wintrobe in 1 hour. WR negative. Blood urea 59 mg./100 ml. Serum electrophoresis: diminished albumin, increased alpha 2 globulin, gamma globulin, and slight increase in beta globulin. X-ray chest: left diaphragmatic adhesions. ECG: very slight reduction in voltage. LE cells were demonstrated in a special preparation of the patient's blood.

Management. The scalp and lymph-node infections were treated with 1 million units of penicillin IM 6-hourly. On 13 April the abscesses were incised and drained, and chloramphenicol was added because the pus contained *Micrococcus pyogenes aureus* sensitive only to this antibiotic and not to penicillin, streptomycin and tetracycline.

Cortisone therapy commenced on 5 April 1952 in dosages of 300 mg. for 1 day, 200 mg. daily for 4 days, 150 mg. daily for 2 days, then 100 mg. daily for several weeks. The dose was then gradually reduced and was 62½ mg. daily by 4 June.

Clinical improvement was rapid and striking, and was already noticeable after 1 day. The skin lesions healed rapidly. She became mentally clearer and more cheerful. By 25 April there was only residual pigmentation of the face. The scalp hair was cropped and the new growth of hair was healthy. Pyrexia and tachycardia subsided. Weight rose to 84 lb. on 25 May and 99 lb. on 29 June, and the notes record that 'after 11 weeks the miraculous transformation was almost complete'.

Hb. rose to 10 G/100 ml. on 12 May and to 12 G/100 ml. on 4 June. From 11 April onwards the urine contained no albumin. Blood urea was 24 mg./100 ml. on 17 April. On 3 July blood urea was 22 mg./100 ml.; serum albumin 4·9 G/100 ml. and globulin 2·1 G/100 ml.

On 4 July she was discharged fit and well, and resumed housework, taking 50 mg. of cortisone daily. (As there was as yet no provision for regular supplies to outpatients, special arrangements had to be made to ensure the continuity of her treatment.)

1952 - 1965: Chronic Mild Arthritis; Long-term Low-dosage Steroid Therapy; Persistence of LE Cells

After discharge, she was seen initially at the Arthritis Clinic and MOPD, Groote Schuur Hospital, and thereafter at MOPD, Somerset Hospital.

While taking 50 mg. of cortisone daily, subjective and objective arthritis of the fingers recurred on 11 July 1952, and the dose was temporarily increased to 75 mg. daily. Thereafter the arthritis was controlled by 50 - 62½ mg. daily. Periodic attempts were made to reduce the dose progressively, and by 1957 she was receiving 37½ mg. of cortisone daily. Prednisone was then substituted, 7½ - 10 mg. daily. Since 1964 the dose has been 5 - 7½ mg. daily. Attempts to reduce the dose further, or discontinue therapy, have led to recurrences of mild arthritis and undue tiredness throughout these years. No clinical signs of hypercortisonism are present. Her face looks normal. There is no glycosuria. X-rays of chest and bones were normal in 1964.

Her general health has remained satisfactory and she resumed work in a factory. In 1964 her ESR was 4 mm. Westergren in 1 hour; Hb. 15·7 G/100 ml.; PCV 46%; WBC 10,200 per cu.mm. with normal differential count: platelets 264,000 per cu.mm.; serum albumin 5·3 G/100 ml.; serum globulin 2·0 G/100 ml.; WR negative.

There have been no clinical signs of renal involvement throughout these 13 years. The urine has contained no albumin on numerous testings. Blood pressure remains normal. Blood urea in 1964 was 21 mg./100 ml.

LE cells have persisted and were detected on several occasions, including July 1952, March 1953, and April 1964.

1953: Pregnancy Without Exacerbation of SLE; Normal Infant

Normal menstruation recurred in October 1952 followed by pregnancy. Arthritis was mild in pregnancy but did not cease completely, and she continued to take approximately 50 mg. of cortisone daily. There was no toxaemia of pregnancy or exacerbation of SLE.

In March 1953, when 5 months pregnant, she had an episode of abdominal pain, vomited blood, and passed a dark stool. The haemorrhage was not severe. Hb. was 13·5 G/100 ml., and PCV 40%. An acute gastric erosion was suspected and she was treated with bed rest and alkalis. There was no recurrence.

She delivered a healthy son, her 3rd child, on 9 July 1953. (As this was the first birth in Groote Schuur Hospital to a mother on long-term steroid therapy, Dr. J. D. L. Hansen saw the infant regularly and did not detect any clinical signs suggestive of adrenal cortical insufficiency.) The baby thrived normally.

DISCUSSION

The polyarthritis in 1950 was presumably the first manifestation of the disease, followed by pleurisy with effusion in 1951. The high pyrexia which developed during the administration of streptomycin and PAS was probably an example of drug fever since patients with SLE develop hypersensitivity to drugs with impressive frequency.[2]

The diagnosis of SLE was established in 1952 by the demonstration of LE cells when she was severely ill with constitutional symptoms, dermatitis, alopecia, and secondary pyogenic skin infection. She responded rapidly to antibiotic and cortisone therapy. Steroid therapy has been continued for 13 years; cortisone, 50 - 62½ mg. daily, until 1957; prednisone, 7½ - 10 mg. daily, since 1957; and prednisone, 5 - 7½ mg. daily, since 1964. She is well and at work, but she has joint pains and feels more tired if prednisone is discontinued. LE cells were still present in 1964.

10-Year (or more) Survival Rate

It is difficult to ascertain the total number of cases, either in the pre-steroid era or in the steroid era, who have survived 10, 15, or more years, but such cases have been seen by many observers.[3-12] Dubois and Tuffanelli, after a computer analysis of 520 cases of SLE in 1964, believe that the prognosis has markedly improved since the advent of corticoid therapy.[13]

Renal Involvement

There is a general impression that the prognosis is better in those patients who do not have renal disease, though there are exceptions. Transitory slight albuminuria and slight azotaemia were present when the diagnosis was made in 1952. It is not certain whether they represented SLE renal involvement or whether they were due to the combination of secondary infection, pyrexia, and dehydration. There has never been any clinical evidence of renal involvement during the subsequent 13 years.

Soffer *et al.*[14] reviewed 90 patients with SLE. Of the 56 with renal involvement, 53 had it on first admission. The 3 who manifested renal complications after the initial diagnosis did so within 3 years. They drew the important prognostic conclusions that if patients do not have clinical evidence of renal disease at the time the diagnosis of SLE is made, it is unlikely that they will subsequently develop this complication; and that the longer the disease continued in a patient without the development of renal complications, the less likely was it to occur. Rothfield *et al.*[15] present findings which are in agreement. Renal disease was observed in 29 of their 52 cases of SLE and in all it was present at the time of first observation.

These optimistic reports raise hope that serious renal involvement will not develop in the patient being reported since she has not had clinical features of renal disease during 13 years of observation. However, there are other observers who do quote the development of renal disease in patients who had no evidence of renal involvement initially.[16]

The Future

It is the impression of Dubois and Tuffanelli[13] that patients with SLE, who frequently omit medication or suddenly stop steroid therapy and wait for severe relapse before obtaining further medical care, are more likely to develop a malignant course of the disease. Fortunately, the dosage of prednisone in the present case is only 5 - 7½ mg. daily and there are no detectable signs of hypercortisonism. She, personally, is most unwilling to discontinue therapy or reduce the dose further at present.

Effect of Pregnancy on SLE

Mund *et al.*[17] recently reviewed the effect of pregnancy on the course of SLE. It may have no effect. But, alternatively, it may cause an exacerbation. No exacerbation of SLE was noted in this case, and she did not develop pre-eclamptic toxaemia.

SUMMARY

The case of a patient with SLE is presented whose symptoms commenced 15 years ago and who is well after 13 years of continuous steroid therapy. LE cells are still present.

While receiving steroid therapy she had a pregnancy without exacerbation of SLE, and delivered a healthy infant.

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