RELATIONSHIP OF SYSTEMIC LUPUS ERYTHEMATOSUS TO RHEUMATOID ARTHRITIS, DISCOID LUPUS ERYTHEMATOSUS, AND SJÖGREN’S SYNDROME

A CLINICAL STUDY

BY

G. BENCZE AND L. LAKATOS

From the First Department of Medicine, University Medical School, Szeged, Hungary

(Director: Prof. M. Julesz)

Because of the frequent presence of polyarthritis and the rheumatoid factor in cases of systemic lupus erythematosus (S.L.E.) and that of the L.E.-cell phenomenon and visceral lesions in cases of rheumatoid arthritis, it was thought that it would be profitable to study the correlation between the two diseases.

The dissemination of discoid lupus erythematosus, especially after exposure to strong sunlight, and its accompanying visceral manifestations have been known for a long time (Kaposi, 1872). There are also some data on the relationship between Sjögren’s syndrome and S.L.E. in the recent literature (Heaton, 1959). However, the correlation of rheumatoid arthritis, discoid lupus erythematosus, Sjögren’s syndrome, and S.L.E. has not been satisfactorily demonstrated, and we have therefore carried out more intensive systemic clinical, and laboratory investigations of the four conditions in 274 cases (Table).

Clinical and Laboratory Investigations

(1) Rheumatoid Arthritis*

In about 50 per cent. of a series of 160 classical cases of rheumatoid arthritis (R.A.) we found a

* Diagnosed by the criteria described by the American Rheumatism Association (Ropes, Bennett, Cobb, Jacox, and Jessar, 1957).

<table>
<thead>
<tr>
<th>Basic Disease</th>
<th>Combination</th>
<th>Time of Onset of 2nd Disease</th>
<th>Total Combined or Alone</th>
<th>Total Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Same Time</td>
<td>2-5 yrs later</td>
<td>6-10 yrs later</td>
</tr>
<tr>
<td>S.L.E.</td>
<td>With R.A.</td>
<td>11</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>With Sj.</td>
<td>6</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>With Disc L.E.</td>
<td>6</td>
<td>1</td>
<td>2</td>
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<tr>
<td></td>
<td>Alone</td>
<td>-</td>
<td></td>
<td></td>
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<tr>
<td>R.A.</td>
<td>With L.E. cells</td>
<td>2</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>With Sj.</td>
<td>6</td>
<td>1</td>
<td>2</td>
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<tr>
<td></td>
<td>With Disc L.E.</td>
<td>6</td>
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<tr>
<td></td>
<td>Alone</td>
<td>-</td>
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</tr>
<tr>
<td>Discoid L.E.</td>
<td>With R.A.</td>
<td>1</td>
<td>2</td>
<td>1</td>
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<td></td>
<td>With S.L.E.</td>
<td>2</td>
<td>1</td>
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<td></td>
<td>With Sj.</td>
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<tr>
<td></td>
<td>Alone</td>
<td>-</td>
<td></td>
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<tr>
<td>Sjögren’s Syndrome</td>
<td>With R.A.</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>With S.L.E.</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Alone</td>
<td>-</td>
<td></td>
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<tr>
<td>Total</td>
<td>Combined</td>
<td>-</td>
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<td></td>
<td>Alone</td>
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</tbody>
</table>

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protein anomaly, dysproteinemia. Serum electrophoresis showed increased gamma-globulin, positive thymol turbidity, positive Kürten reaction, and in some cases a positive Sia-reaction and cryoglobulin. In the other arthritic patients with exactly similar clinical symptoms there was no such alteration in the serum proteins.

Ten of these arthritic patients with dysproteinemia had L.E. cells which were indistinguishable from the S.L.E. cases (they are shown in the Table in the R.A. group).

The same protein anomaly was found in nearly every one of a series of 36 patients with S.L.E., and fifteen* of these 36 patients (41.7 per cent.) showed a classical polyarthritis of the rheumatoid type; in four of the latter the polyarthritis had developed 2 to 5 years after the manifestation of the typical clinical and laboratory features of S.L.E.

In this way we have 36 S.L.E. patients and ten arthritics with L.E. cells, making a total of 46 with L.E. cells. Of this group of 46 cases the ten arthritics and fifteen of the S.L.E. patients had polyarthritis, a total of 25 out of 46 (54.3 per cent.).

(2) Discoid Lupus Erythematosus†

Eight of the series of 36 patients with S.L.E. also showed the typical lesions of discoid lupus erythematosus. In six the onset was simultaneous and in two the skin lesions appeared 2-5 years after the onset of S.L.E.

In two patients the skin eruptions appeared first and the signs and symptoms of S.L.E. followed 2-5 years later.

In three arthritics the discoid skin lesions appeared 2 to 15 years after the onset of the polyarthritis,† and in two patients the skin eruptions appeared first and the polyarthritis developed 2-15 years later.

(3) Sjögren’s Syndrome§

The combination of joint and eye lesions with hypofunction of the lacrimal, nasal, and salivary glands has been termed the sicca syndrome and Sjögren’s syndrome. Sjögren (1933) described nineteen such patients, some with associated polyarthritis and parotid swelling, as well as microscopic changes in the conjunctiva, cornea, and lacrimal and

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* These are shown in the top row of the Table in the S.L.E. group.
† For criteria of diagnosis, see Appendix.
‡ In one remarkable case (marked * in the Table) the rheumatoid arthritis began in 1948 (diagnosis supported by the histological study of a subcutaneous rheumatic nodule); L.E. cells first appeared 10 years later (in 1958), and 2 years later (in 1960) skin eruptions were observed (Bencez, Lakatos, and Forró, 1961).
§ For criteria of diagnosis (see Appendix).
REFERENCES

APPENDIX

Criteria used in Diagnosis

**DISC. L.E.:**

(A) **Results of Laboratory Investigations:**
(i) Positive L.E.-cell phenomenon;
(ii) Raised erythrocyte sedimentation rate;
(iii) Dysproteinemia (lowered albumin, increased gamma-globulin, abnormal thymol turbidity);
(iv) False positive Wassermann reaction;
(v) Haematological changes (anaemia, leucopenia, thrombocytopenia).

(B) **Clinical Symptoms:**
(i) Fever (often septic);
(ii) Skin eruptions; erythematous rash on face; Raynaud's phenomenon; photosensitivity; urticaria;
(iii) Joint lesions (arthralgia, polyarthritis of rheumatoid type);
(iv) Serositis or polyserositis (pleuritis, pericarditis);
(v) Adenomegaly, splenomegaly, hepatomegaly;
(vi) Visceral lesions (kidney, lung, heart, central nervous system, gastro-intestinal tract, pancreas, liver).

(C) An episodic clinical process and a favourable response to treatment with steroids or chloroquine.

For a definite diagnosis we required the positive L.E.-cell phenomenon, the raised erythrocyte sedimentation rate, and at least one abnormal laboratory test, and at least two clinical symptoms. Our patients had been systematically reviewed every 3 to 6 months since 1954 to check the **episodic clinical process** and the effects of therapy.

**SJÖGREN'S SYNDROME:**

(A) Hypofunction of the lacrimal, nasal, or salivary glands, manifest by dryness of the eyes, mouth, nose, larynx, or skin, sometimes scleroderma-like, with skin lesions and achylia;

(B) Parotid swelling;
(C) Arthralgia or polyarthritis of rheumatoid type;
(D) Raynaud's phenomenon;
(E) Photosensitivity.

The degree of keratoconjunctivitis sicca (inflammation of the cornea and conjunctiva in consequence of dryness) was determined by Schirmer's method of measuring the tear secretion. A filter paper, 0.5 cm. wide and 3.5 cm. long was applied to the corner of the eye, and the degree of humidity noted after 5 min. The test was considered as positive only if the strip of paper moistened was smaller than 15 mm.

For a definite diagnosis we required at least one of symptoms (B) to (E) besides the keratoconjunctivitis sicca (A).

**RéSUMÉ**

Le rapport entre le lupus érythémateux disséminé et l'arthrite rhumatismales, le lupus érythémateux discolde et le syndrome de Sjögren. Étude clinique

**SUMARIO**

Las relaciones y el curso simultáneo del lupus eritematoso diseminado, de la artritis reumatoide, del lupus eritematoso discoide y del síndrome de Sjögren.--Estudio clínico

Relaciones entre el lupus eritematoso diseminado, y la artritis reumatoide, el lupus eritematoso discoide y el síndrome de Sjögren.--Estudio clínico