ORIGINAL RESEARCH

Long Term Remission and Alleviation of Symptoms in Allergy and Crohn's Disease Patients Following Spinal Adjustment for Reduction of Vertebral Subluxations‡

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ABSTRACT

Background: An association between visceral disease and immune dysfunction from sympathetic segmental disturbances secondary to vertebral subluxation has been put forward by chiropractic, osteopathic and medical practitioners. We report on the positive results of a controlled study using chiropractic adjustments to reduce subluxations in patients with Crohn's disease and allergies. We also discuss possible mechanisms for the relationship between visceral and immune dysfunction and subluxation.

Methods: We divided 57 Crohn's disease patients into two groups. A treatment group consisting of 17 patients and a control group consisting of 34 patients. 6 patients were excluded from the study because of their symptoms, progress and changes in blood test values and because vertebral subluxations were present only in the lumbar region. With all patients continuing their present medication, we subjected the treatment group of 17 patients to spinal adjustment in order to reduce the vertebral subluxations in the thoracic and lumbar regions and compared them with the 34 patients who did not receive spinal adjustments.

Results: Of the 17 patients who received spinal adjustments, 12 showed long-term and stable remission of their symptoms and 9 experienced an alleviation effect. We found that vertebral subluxation is a common and characteristic finding in patients with allergies and Crohn's disease.

Conclusion: According to the results of this study the possibility may be considered that chronic nerve compression secondary to vertebral subluxation in the thoracic and lumbar regions had a significant effect on the immune function of these allergy and Crohn's disease patients. It is further postulated that this nerve compression leads to a chronic functional disorder having a significant effect on digestion, absorption of nutrients and liquids, conveyance of food as well as various other functions of the digestive tract extending to excretion.

Key words: *Vertebral misalignment, vertebral subluxation, Crohn's Disease, allergies, immunity, radiographs, eosinophils, c-reactive protein*

Background and Introduction

This study on Crohn's disease has its origin in the observation that of 3,013 patients with atopic dermatitis, bronchial asthma, pollinosis (hay fever), allergic coryza, drug allergies, food allergies, etc. a high ratio also had Crohn's disease.

As result of a treatment that involved chiropractic care directed at improving spinal misalignment, subluxation and loss of curvature of 4 Crohn's disease patients who concurrently suffered from atopic dermatitis and bronchial asthma, it was shown that the Crohn's symptoms, such as diarrhea, abdominal pain, and enteritis improved along with the atopic dermatitis and bronchial asthma symptoms.

As result of a follow-up study of these 4 patients, it was found that the eosinophil count and CRP values improved toward normal. As it was surmised that allergies, such as very severe atopic dermatitis and bronchial asthma, have a strong connection to Crohn's disease, a multi-faceted comparative study and detailed analysis was continued on patients with allergies and Crohn's disease.

Out of 3013 allergy patients a detailed multi-faceted comparative study of 57 allergy patients who also had Crohn's Disease was conducted. The analysis of the study results

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showed that particular characteristics were shared by allergy patients and Crohn's disease patients. It was found that vertebral subluxation was present in both Crohn's disease patients and allergy patients. Changes in vertebrae caused by vertebral subluxation were present in particular regions of the spine and chronic narrowing of the vertebral foraminae due to the changes in the vertebrae were present. Moreover, it was found that these vertebral subluxations, their location in the spine, and the changes in the vertebrae were remarkably similar.[1] It was found that the muscular system that supports and maintains the spine was in noticeably poor condition in Crohn's disease patients and allergy patients alike.

Vertebral subluxation in allergy patients and Crohn's disease patients was present from the 8th to the 10th thoracic vertebra and due to the vertebral subluxation the 8th to the 10th thoracic vertebrae were changed in a forward and downward direction and a slight lateral direction. Because of the chronic neurotripsy, caused by the chronic narrowing of the intervertebral foraminae due to the changes in the vertebrae, it may be considered that reciprocal innervation between the brain and the organs is continually and severely impacted.[2]

Because of the chronic neurotripsy,[3] caused by the intervertebral narrowing of the foraminae due to changes in the 8th to the 10th thoracic vertebra in a forward and downward direction, the immune function related to innervation of organs, such as the adrenal glands and the adrenal cortex, is chronically and severely impaired.[4]

Because of the continuation of this chronic and severe condition, it is considered that there is a high probability that the following chronic conditions are present:[5]

1. The presence of chronic and various reciprocal innervation disorders between the brain and the adrenal glands.[6]
2. The presence of chronic hormone secretion dysfunctions of the adrenal glands based on the reciprocal innervation between the brain and the adrenal glands.[7]
3. The presence of a chronic negative feedback related to the adrenal glands based on intracerebral stimuli.
4. The presence of a chronic norepinephrine cycle dysfunction related to the adrenal glands based on intracerebral stimuli.
5. The presence of a chronic dysfunction in the susceptivity for ACTH in the adrenal glands (adrenal cortex).[8]
6. The presence of chronic dysfunction of the adrenal glands and adrenal cortex themselves caused by blood circulation dysfunction in the adrenal glands.[9]
7. The presence of chronic backache.

If the probability of the presence of glucocorticoid secreted from the adrenal cortex as a result of the secretion dysfunction is very high, it may be considered that the following conditions are chronically and continuously present.[10, 11]

1. The presence of a restraint at the cellular and molecular level to the production of cytokine, such as IL-4, 5, 13, and TNF.[12, 13]
2. The presence of a restraint at the cellular and molecular level to the translation and transcription for the production of cytokine.
3. The existence of a restraint at the cellular and molecular level for the protein that is needed in the translation and transcription.[14]
4. The presence of a restraint to the production of a strong inflammation inducer.[15]
5. The presence of a restraint to the production of IgE.[16]
6. The presence of a restraint to the activation of mast cells.[17]
7. The presence of a dysfunction that restrains and directly modifies the immunity against the production of ACTH and -endorphins.[8]
8. The presence of a restraint to the activation of helper T2-cells and eosinophils.[19, 21, 22 -29, 30, 31]

As a result of the significant presence of chronic neurotripsy in the intervertebral foraminae caused by the chronic narrowing of the same, together with the complications from the changes in the vertebrae due to the vertebral subluxation from the lower thoracic vertebrae to the lower lumbar vertebrae, the following chronic conditions may be considered.

1. The presence of reciprocal innervation dysfunction between the brain and the nervous system of the digestive tract.
2. The presence of digestive juice and digestive enzyme secretion dysfunction in the digestive tract.
3. The presence of digestive and peristaltic (movement, segment, oscillation) dysfunction of the digestive tract.
4. The presence of blood circulation dysfunction in the digestive tract.
5. The presence of nutrient und liquid absorption dysfunction in the digestive tract.
6. The presence of backache and lower backache.

As a result of the continued presence of these conditions, the following conditions may result:

1. The presence of chronic blood circulation dysfunction in the digestive tract, which can develop into and be an element in the expansion of the inflammation.
2. The presence of chronic liquid absorption dysfunction as a cause of diarrhea and constipation.
3. The presence of chronic nutrient absorption dysfunction as a cause of basic physical and immune dysfunctions.
4. The presence of digestive juice and enzyme secretion dysfunction as a digestive function disorder.
5. The presence of digestive tract peristalsis dysfunction as a cause of constipation and abnormal fermentation in the digestive tract.

As a result of these various chronic dysfunctions, it may be considered that the following symptoms can result:

1. The presence of chronic decline of immunity caused by weight loss and decline of basic physical strength.
2. The retention of food and abnormal fermentation in the intestines.
3. The possibility of an abnormal increase of bacteria in the intestines.
4. The possibility of continued, slight, chronic inflammation in the digestive tract.
5. Chronic and frequent abdominal pain.
6. Chronic and frequent constipation and diarrhea.
7. The presence of chronic back and abdominal pain and discomfort.

Crohn's disease patients with severe symptoms have suffered from very frequent diarrhea and abdominal pain, as well as hemafecia symptoms with inflammation, abnormal increase of bacteria in the inflamed region, loss of weight caused by continuing anorexia, and chronic anemia. And, as a result of the vicious circle of malnutrition etc., have not only lost significant basic physical strength, which is considered to be the reason for the loss of immunity, but also serious psychological stress.

In order to alleviate these severe conditions, these patients have dealt with the particular disease symptoms with medicines such as adrenocorticoid hormone drugs, antihistamines, various antibiotics, antiphlogistics, sulfa drugs, and immunosuppressants. When exposed to antigens above the limit of the patient's immunity while chronic, abnormal conditions continue to be present, it may be considered that allergic symptoms appear in a more conspicuous form.[32, 19]

This is especially true in patients whose adrenal cortex secretions are temporarily declining due to long-term use of adrenocorticoid hormone drugs, and as a result various allergic symptoms may appear in more severe forms. Allergy symptoms appear in epithelial tissues (cutis, trachea, bronchial tunica mucosa, and in the digestive tract region) where many mast cells can trigger an allergic reaction.[17]

For Crohn's disease patients in a chronic, severely weakened condition, especially a physically weak condition, it may be considered that their adrenocorticoid hormone secretions have significantly declined due to the efforts to cope with the allergic reactions. For patients with these conditions, the possibility may even be considered that their ability to produce Th1 cells against Th2 cells is significantly lowered.[18]

Regardless of the treatment of the symptoms with adrenocorticoid hormone drugs and immunosuppressants, even if temporary relief and check of the symptoms may be realized, the improvement of the disease itself may be very difficult because of the difficulty to discern improvement from the appearance of unstable inflammatory symptoms and the eosinophil count.[33]

It may be considered that damage by further abnormal allergic reaction in the innervated organ that is being continuously and severely impacted by chronic neurotripsy in the intervertebral foraminae due to the vertebral subluxation, will appear as a more serious symptom.[34, 35] It appears most likely that this is the major difference between patients with mild symptoms and patients with severe symptoms.

(Note: In patients with spondylosis and spondylolithesis the cause of chronic diarrhea, constipation, enteral abnormal fermentation, and swelling and discomfort in the lower abdomen may be a relatively mild change of the lumbar vertebrae when compared to Crohn's disease patients.)

It can be said that the fundamental treatment of these diseases is the improvement of the chronic narrowing of the intervertebral foramina secondary to vertebral subluxation (commonly seen in those patients), along with the alleviation and restraint of inflammation, allergic reactions, abnormal increase of bacteria by particular medical treatment, and the improvement of the dysfunction of the adrenal glands, adrenal cortex, and the small and large intestine.

What is important for the patient is to have the responsibility and determination to try to improve the muscles supporting the vertebral column and to engage in sufficient sleep, rest, active stress reduction, and nutrition to improve basic physical strength (immunity and resistance) for the recovery from the disease.[31, 36]

Methods and Analysis

We investigated the following on 57 Crohn's disease patients:

1. The number of the Crohn's disease patients among the 57 who presently have allergies or have had allergies in the past.
2. The allergy each patient presently has or has had in the past.
3. The number of Crohn's disease patients who never had an allergy.
4. The symptoms and the severity of symptoms of Crohn's disease in patients who presently have allergies or had allergies in the past.
5. The symptoms and severity of symptoms of Crohn's disease in patients who never had allergies.
6. The spinal column X-ray (and palpation of the spine) of Crohn's disease patients who presently have allergies or had allergies in the past.
7. The spinal column X-ray (and palpation of the spine) of Crohn's disease patients who never had allergies.
   a. X-ray examination of the thoracic region.
   b. X-ray examination of the lumbar region.
8. Assessment of the muscles supporting the spinal column in Crohn's disease patients.

We further investigated the following on 57 Crohn's disease patients:

1. The severity and frequency of inflammation.
2. The severity and frequency of diarrhea.
3. The severity and frequency of abdominal pain.
4. Whether an ulcer had developed and its severity and frequency.
5. The severity and frequency of backache and lower backache (lumbago).
6. Blood tests (eosinophil count and CRP values) on Crohn's disease patients.

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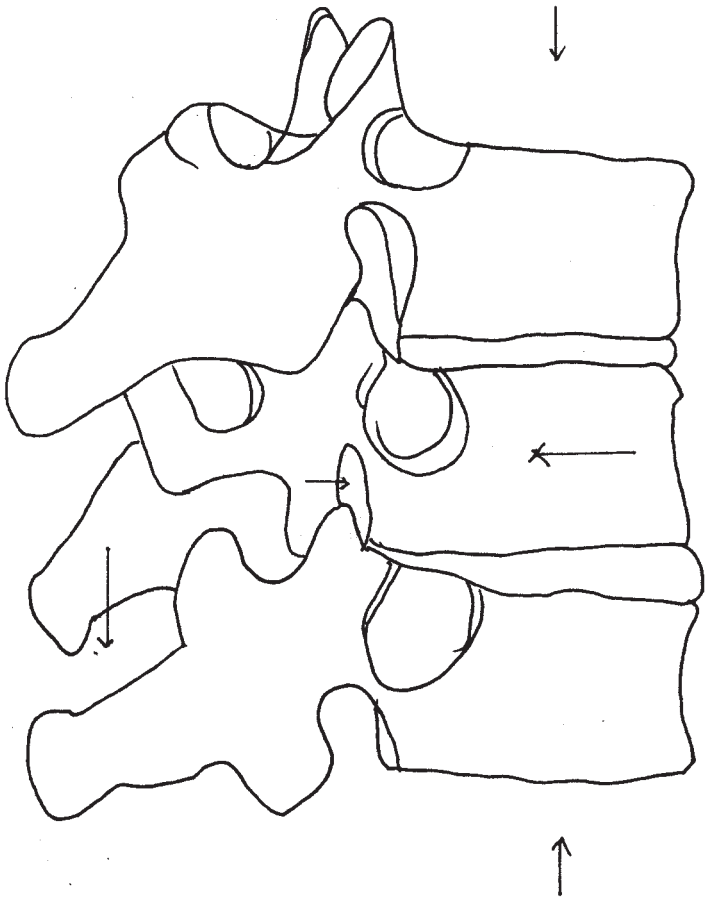


Figure 1 - Changes in the 5th to the 3rd lumbar vertebra caused by vertebral subluxation

Changes of vertebrae caused by vertebral subluxation in the lumbar region are present from the 5th (sometimes from the 1st of the sacrum) to the 3rd lumbar vertebra.

These changes of the individual vertebrae are those with a slight backward shift of the vertebrae and a slight movement to the right and downward.

1. The vertebra moves in a backward direction as a natural result of vertebral subluxation in the lumbar region.
2. The vertebra that moves in backward direction also tends to move in a downward direction due to gravity.
3. The rear part of the intervertebral disc is compressed by the movement of the vertebra in backward and downward direction.
4. The spinal process of the vertebra that is undergoing the change, therefore, moves downward and slightly forward and gets close to the spinal process of the vertebra that is located below the changed vertebra.
5. The transverse processes of the vertebra undergoing the change move similarly downward and slightly forward.
6. The articulating process on the lower side of the vertebra undergoing change moves backward and downward against the upper side of the adjacent vertebra, and as a result, the front/back and up/down opening of the intervertebral foramina in the changed vertebra is continuously forced into a chronically narrowed condition.

The changes in the lumbar vertebrae caused by vertebral subluxation, although there was a rather slight movement backward and downward in the atopic dermatitis and bronchial asthma patients, could be diagnosed as within the normal range. However, in Crohn's disease patients, the degree of vertebral subluxation and changes in backward and downward movement was significant. Also, in Crohn's disease, the severity of the changes in the vertebrae were reflected in the narrowing of the intervertebral foraminae.

It may easily be considered that neurotripsy in the intervertebral foraminae by chronic narrowing of the foramina of multiple vertebrae caused by changes in lumbar vertebrae in Crohn's disease patients continues to impact the innervation of organs and the reciprocal innervation between the brain and the organ, and this severe chronic condition should not be ignored.

At Tokai University, Graduate School of Engineering, Department of Human Engineering, in order to develop an effective and safe technique for the alleviation of the downward direction of vertebrae we referred to the techniques of traditional chiropractic but changes of lumbar vertebrae in backward and downward direction was not considered to exist in some chiropractic colleges in the United States. However, as the result of diagnosing and analyzing x-ray pictures of the lumbar vertebrae of many Crohn's disease patients in our project, we reconfirmed that backward and downward changes in the vertebrae of the lumbar region certainly exist. It is thought that the fact that Crohn's disease patients have not been studied thoroughly in the field of chiropractic may be the reason for the opinion of some of the schools.

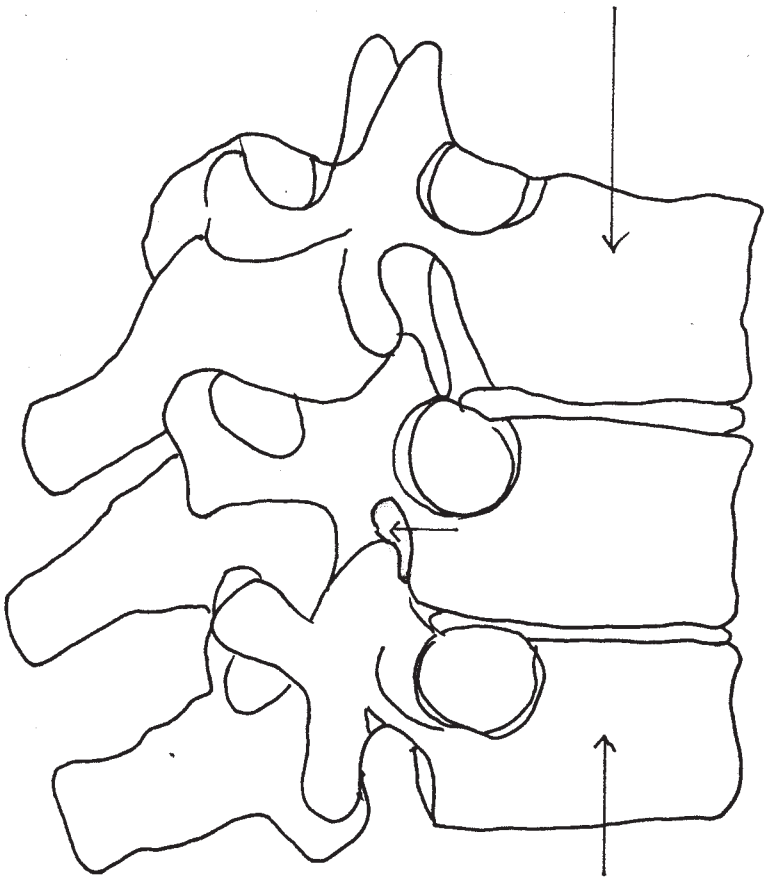


Figure 2 - Changes in vertebrae from the 11th thoracic vertebra to the 2nd lumbar vertebra caused by vertebral subluxation in two regions of the thoracic and lumbar vertebrae

Because of the vertebral subluxation of 2 regions of the thoracic and lumbar vertebrae, the 11th thoracic vertebra and the 2nd lumbar vertebra are arranged perpendicularly (on one straight line).

In the normal condition of the spinal curvature, the gravitational load for each vertebra from the 11th thoracic vertebra to the 2nd lumbar vertebra are dispersed, but the changes in the vertebrae in downward direction and the perpendicular arrangement have created the chronic condition where the gravitational load rests directly on the vertebrae and the intervertebral disc.

The changes in the vertebrae between the 11th thoracic and 2nd lumbar vertebra were those with an axis either to the right or the left in downward direction of the vertebrae.

1. The vertebra is compressed due to the changes in multiple vertebrae in downward direction, and the intervertebral disc is compressed by enormous gravitational loads. As a result, the intervertebral foraminae present a chronically narrowed condition in vertical direction. (Presence of chronic narrowing of the perpendicular opening of the intravertebral foramina.)
2. Due to the thinning of the intravertebral disc by gravitational loads, the articulating process on the lower side of the vertebra comes close to the articulating process on the upper side of the adjoining vertebra. (Pressure inside the vertebral foramina by the articulating process.)
3. Not only the articulating processes but also the vertebrae come close.

These changes in the vertebrae were also present in the 5th lumbar vertebra and the 1st sacral vertebra in Crohn's disease patients who suffered from these symptoms to a high degree.

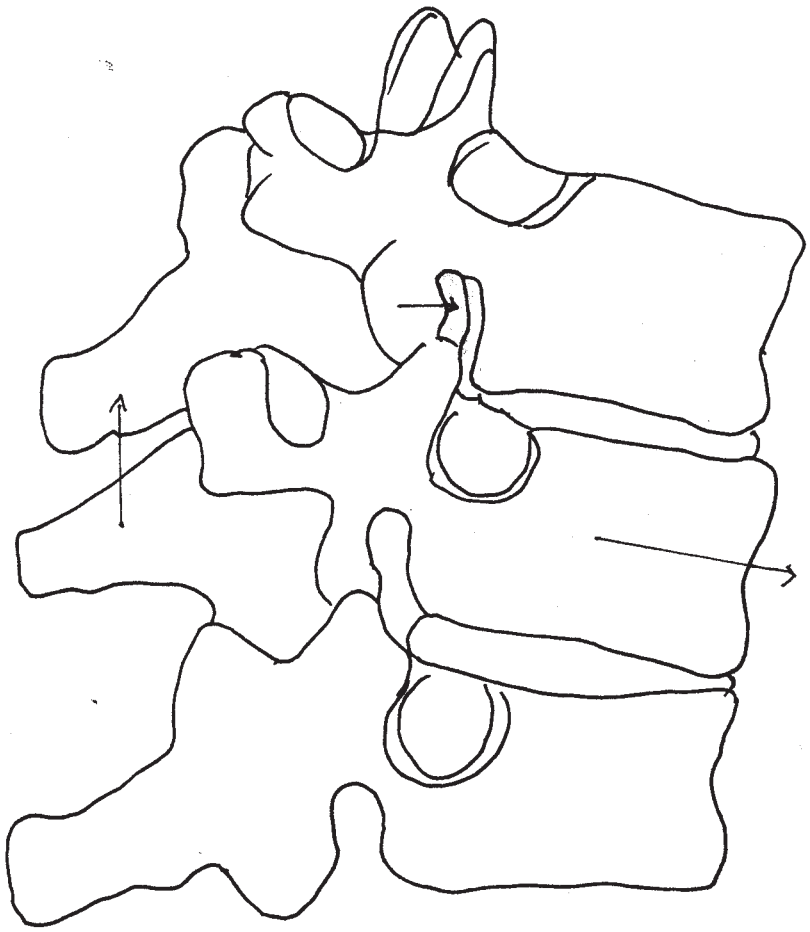


Figure 3 - Changes in vertebrae from the 8th to the 10th thoracic vertebra caused by vertebral subluxation

The changes of the vertebrae from the 8th to the 10th thoracic vertebra caused by the abnormal spinal curvature are associated with the vertebral subluxation of the normal S-shaped spinal curve to the outer top of the 7th thoracic vertebra. The changes of the vertebrae caused by this abnormal subluxation can cause multiple changes in the vertebrae that influences not only the forward and downward direction of the vertebrae along an axis either to the left or the right, but also a change in the vertebrae in downward direction, depending on the condition of the vertebral subluxation.

1. The changes in the vertebrae caused by the vertebral subluxation is present from the 7th or 8th thoracic vertebra to the 10th thoracic vertebra.
2. On the affected vertebra, changes in forward and downward direction are present, and sometimes this was influenced by changes in the vertebra in a downward direction.
3. The vertebrae that are changed in forward and downward direction move in that direction and as a result, the inclination of the vertebrae is realized in the same direction.
4. When the intervertebral disc is compressed forward and downward by changes in the vertebra, further downward pressure will thin the front area of the disc.
5. The direction of the spinous process becomes horizontal due to the inclination of the front side of the vertebra in a downward direction.
6. The upper articulating process that is causing the changes in the vertebrae is pushed forward and can penetrate the intervertebral foramina in the upper part of the changed vertebra.
7. The thinner the front area of the intervertebral discs become and the thinner the intervertebral discs as a whole become, the further incline the vertebrae that support them in a forward direction and alter the downward direction.

Thirty eight year old female with severe CD symptoms, also suffers from allergic rhinitis and allergic skin rashes.

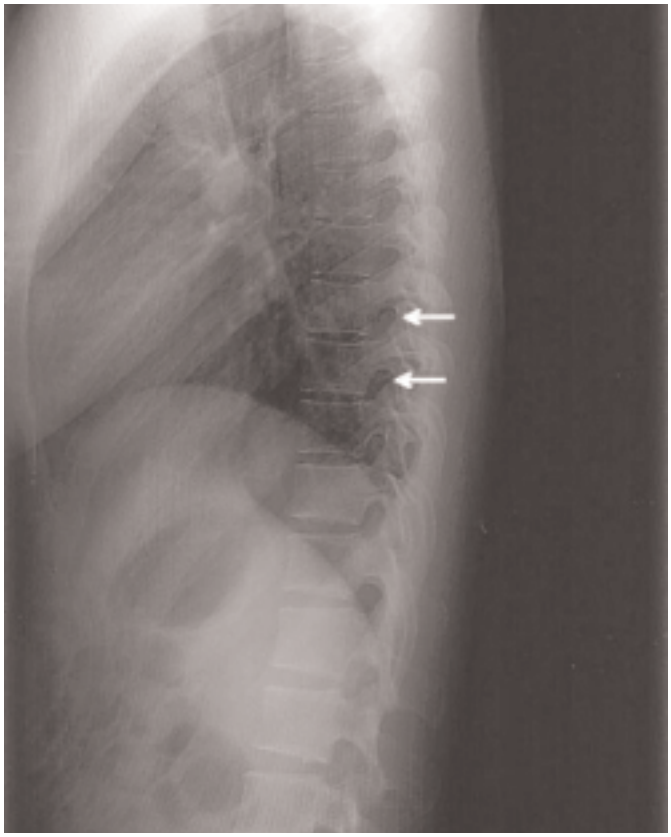
1. The vertebral curvature disappearance between the lumber and thoracic region.
2. The existence of the narrow condition of the gap between S1and L5 by vertebral posterior and inferior displacement. (Fig-1)
3. The existence of narrowed intervertebral foramina by the vertebral displacement of L5 and L3. (Fig-1)
4. The existence of narrowed vertebral gap by the vertebral displacement between T12 and L1. (Fig-2)

Twenty one year old female with moderate CD symptoms, also suffers from atopic dermatitus.

1. The existence of a narrowed gap between S1 and L5. (detailed explanation, see Fig-2)
2. The existence of a narrowed condition of the intervertebral foramina by the vertebral displacement at S1 and L2. (Fig-1)
3. The existence of a narrowed vertebral gap by the vertebral displacement between T12 and L1. (Fig-2)

Twenty four year old female with mild CD symptoms and does not have any other allergic disease.

1. The existence of a narrowed gap between S1 and L5. (Fig-2)
2. The existence of narrowed intervertebral foramina by the vertebral displacement of S1 and L4. (Fig-1)
3. The existence of a narrowed vertebral gap by the vertebral displacement between T12 and L2. (Fig-2)



Twenty six year old male patient with severe symptoms of atopic dermatitis and also suffers from asthma.

1. The vertebral curvature disappearance of thoracic region.
2. The existence of the anterior and inferior vertebral displacement between T8 and T10. (Fig-3)
3. The existence of narrowed intervertebral foramina by the vertebral displacement between T8 and T10.

Note: In all radiographs, there is a difference in degree but all vertebral displacements exist from S1 to L3 and from T12 to L3.

Tables 1-5
Improvement Results from Chiropractic in 17 Crohn's Disease Patients

Table 1
Study Results of Group 1a

Age	Sex	Cure Period	CRP value	Eosinophil count
25	male	12 months	28 → 0.8mg/dl	32 → 9 %
19	female	9 months	42 → 0.0mg/dl	22 → 8 %
24	male	9 months	33.8 →0.9mg/dl	27 → 12 %
48	female	12 months	27.8 → 3.2mg/dl	35 → 17 %

Table 2
Study Results of Group 1-b

Age	Sex	Cure Period	CRP value	Eosinophil count
24	male	12 months	32 → 0.8mg/dl	28 → 12 %
32	male	12 months		19 → 9 %
29	male	12 months	46 → 0.2mg/dl	14 → 5 %
19	female	9 months	54 → 1.6mg/dl	31 → 13 %

Regarding the patients in Group 1a: All 1a Crohn's disease patients continued to present symptoms of severe anorexia, chronic anemia, weight loss caused by nutrition absorption dysfunction, and degradation of basic physical strength because of the sustained chronic, severe symptoms of the disease. The eosinophil counts of groups 1a and 1b showed relatively high scores. Even with combination treatment, it was not easy to lower the scores of the eosinophil count toward normal values and more days were required. Regarding the Crohn's disease patients, patients with severe atopic dermatitis, and patients with bronchial asthma, the eosinophil count yielded better real-time and accurate information on inflammation, changes in disease symptoms, and progress as compared with the CRP values.

Table 3
Study Results of Group 1c

Age	Sex	Cure Period	CRP value	Eosinophil count
24	female	12 months	32 → 0.4mg/dl	18 → 4 %
19	female	9 months		32 → 5 %
21	male	12 months	16 → 0.0mg/dl	12 → 8 %

Table 4
Study Results of Group 2a

Age	Sex	Cure Period	CRP value	Eosinophil count
27	male	12 months	18 → 0.2mg/dl	14 → 10 %
53	female	9 months		12 → 7 %
26	male	9 months	42 → 0.0mg/dl	22 → 8 %

Table 5
Study Results of Group 2b

Age	Sex	Cure Period	CRP value	Eosinophil count
44	male	12 months		14 → 6 %
19	female	9 months	34 → 0.0mg/dl	9 → 5 %
16	male	9 months	33 → 0.8mg/dl	17 → 12 %

The more the intravertebral foramina narrowed due to the changes in the vertebrae, the more severe became the inflammation, abdominal pain, diarrhea, hemafecia, anemia, and loss of weight of the Crohn's disease patients. Those Crohn's disease patients who presented changes in vertebrae caused by vertebral subluxation in the 3 regions from the 8^{th} to the 10 thoracic vertebra, from the 5^{th} to the 3^{rd} lumbar vertebra, and from the 11^{th} thoracic vertebra to the 2^{nd} lumbar vertebra showed the most severe conditions.

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We executed the Takeda Chiropractic Method on 17 of the 57 Crohn's disease patients with vertebral subluxation and changes in vertebrae and compared the changes in symptoms and blood test values with those of 34 patients with similar symptoms and changes in vertebrae. We compared both groups under the condition that they continued their usual medical treatment. The remaining 6 Crohn's disease patients were not included as subjects in this comparative study because of their symptoms, progress, and changes in blood test values and because vertebral subluxation was present only in the lumbar region.)

We separated 17 Crohn's disease patients into the following 2 groups based on vertebral subluxation and changes in the vertebrae.

1. 11 Cohn's disease patients who presently have allergies or have had allergies in the past.

    a. 4 Crohn's disease patients who have severe Crohn's disease symptoms with severe changes in the 8th to the 10th thoracic vertebra, the 5th to the 3rd lumbar vertebra, and the 11th thoracic vertebra to the 2nd lumbar vertebra with vertebral subluxation in the thoracic and lumbar region.
    b. 4 Crohn's disease patients who have comparatively severe Crohn's disease symptoms with severe changes in the 8th to the 10th thoracic vertebra, the 5th to the 3rd lumbar vertebra, and the 11th thoracic vertebra to the 2nd lumbar vertebra with vertebral subluxation in the thoracic and lumbar region.
    c. 3 Crohn's disease patients who have mild Crohn's disease symptoms with changes in the 8th to the 10th thoracic vertebra and the 5th to the 3rd lumbar vertebra with vertebral subluxation in the thoracic and lumbar region.

2. 6 Crohn's disease patients who never had any allergies.

    a. 3 Crohn's disease patients who have comparatively severe Crohn's disease symptoms, to the same degree as group 1-b, with changes in the 8th to the 10th thoracic vertebra and the 5th to the 3rd lumbar vertebra with vertebral subluxation in the thoracic and lumbar region.
    b. 3 Crohn's disease patients who have mild Crohn's disease symptoms, to the same degree as group 1-c, with changes in the 5th to the 3rd lumbar vertebra and vertebral subluxation in the thoracic vertebrae.

The Takeda Chiropractic Method

This is a method to correct changes in vertebrae due to vertebral subluxation and to improve the chronic narrowing of the intervertebral foraminae. It was developed within one year starting in 1994 at the University of Tokai, Graduate School of Engineering, Department of Human Engineering, with the objective of executing the correction of the vertebral subluxation more safely and reliably. This method was developed based on various comparative experiments.

This method differs from the traditional orthopedic method in that it requires a treatment technique that incorporates 9 physical elements in order to safely and reliably correct the patient's posture during treatment along with correction of the targeted vertebrae. Also, to attain the best effect from this technique, maximum pleural pressure and abdominal cavity pressure was applied.

Regarding the frequency and duration of the treatment to correct changes in the vertebrae caused by vertebral subluxation, it is noted that the results of comparative studies on Crohn's disease patients and patients with atopic dermatitis and allergies such as bronchial asthma showed that daily corrective treatment for the first one and one half to two months of the course of treatment had the best improvement effect.

Analysis of Study Measurements

1. Total Crohn's disease patients who have or had allergies: 31
2. Details on allergies
    a. Patients with severe atopic dermatitis: 16
    b. Patients with bronchial asthma: 7
    c. Patients with atopic dermatitis: 9
    d. Patients with allergic coryza: 23
    e. Patients with pollinosis (hay fever): 20
    f. Patients with food and drug allergies: 12

    (Note: There were cases with overlapping symptoms)

3. Crohn's disease patients who never had any allergies: 26
4. Symptoms and severity of symptoms of 31 patients who have or had allergies.

    a. 22 out of 31 patients presented with severe Crohn's disease symptoms and it was impossible to predict the onset of the occurrence of severe inflammation. It was frequently observed that severe and frequent abdominal pain caused severe and frequent diarrhea and hemafecia.
    b. 14 out of 31 patients experienced the development of an ulcer.
    c. 11 out of 14 patients required the operative removal of the ulcer.
    d. 23 out of 31 patients showed a very high eosinophil count and CRP values, and it was difficult to bring them back to normal values.
    e. It was difficult for traditional medical treatment to improve and stabilize the symptoms.
    f. In many cases there was a frequent and large amount of steroid use.

5. 26 Crohn's disease patients who never had any allergies.

    a. Crohn's disease symptoms in 21 of 26 patients were comparatively moderate and stable. In the case of the occurrence of inflammation, it was rare that the condition appeared suddenly and unpredictably. The severity and frequency of diarrhea and abdominal pain was relatively mild and moderate.
    b. Development of an ulcer occurred in 5 out of 26 patients.
    c. 3 out of 26 patients required the operative removal of the ulcer.
    d. There were many cases in which it was comparatively easy to bring the CRP values and the eosinophil count back to normal values.
    e. An alleviation effect was obtained more safely compared to traditional medical treatment.
    f. Treatment with steroids was not frequent in this group, and in many cases a stable treatment effect was obtained within a short period of time.

(Note: There were some cases in which mild symptoms of allergies of Crohn's patients clearly disappeared as result of the treatment with steroids, and in some cases, the symptoms recurred as soon as the use of steroids was stopped.)

Results of the detailed analysis of 31 patients who have or had any allergies and in which changes in vertebrae caused by vertebral subluxation are present, and their symptoms:

1. The Crohn's disease symptoms in two Crohn's disease patients with changes in the 5th to the 3rd lumbar vertebra caused by vertebral subluxation were stable and moderate.
2. Various Crohn's disease symptoms of 11 Crohn's disease patients with chronic changes caused by vertebral subluxation from the 8th to the 10th thoracic vertebra and from the 5th to the 3rd lumbar vertebra were unstable and severe.
3. Various Crohn's disease symptoms of 18 Crohn's disease patients with chronic changes caused by vertebral subluxation from the 8th to the 10th thoracic vertebra, from the 11th thoracic vertebra to the 2nd lumbar vertebra, and from the 5th to the 3rd lumbar vertebra were the most severe and unstable.

Results of the detailed analysis of 26 patients who never had any allergies and in which changes in vertebrae caused by vertebral subluxation are present, and their symptoms:

1. The Crohn's disease symptoms in 9 Crohn's disease patients with changes in the 5th to the 3rd lumbar vertebra caused by vertebral subluxation were stable and moderate.
2. Various Crohn's disease symptoms of 13 Crohn's disease patients with chronic changes caused by vertebral subluxation from the 8th to the 10th thoracic vertebra and from the 5th to the 3rd lumbar vertebra were relatively unstable but comparatively mild.
3. Various Crohn's disease symptoms of 4 Crohn's disease patients with chronic changes caused by vertebral subluxation from the 8th to the 10th thoracic vertebra, from the 11th thoracic vertebra to the 2nd lumbar vertebra, and from the 5th to the 3rd lumbar vertebra were comparatively severe and unstable.

(Note: 44 out of 57 Crohn's disease patients complained about pain, heaviness, and discomfort in the back and abdominal region with some differences in frequency and severity. 32 out of 44 patients complained about pain in the abdominal region after continued pain in the back and lower back.)

In the analysis of the follow-up observations regarding the effects of the Takeda method on the changes in vertebrae caused by vertebral subluxation present in Crohn's disease patients, the detailed analysis of patient's CRP values and eosinophil counts were necessary and useful for understanding the direct and indirect effects on the symptoms of the disease.

We considered that the CRP values and the eosinophil counts were an effective means to assess the severity of the patient's inflammation and the direct and indirect changes of their inflammatory condition. These values provided important indirect information regarding recovery of the patient's adrenocorticoid hormone secretion function and the recovery of function in the inflammed region and its surroundings. These values were also a useful means to directly and indirectly assess the presence of the patient's inflammation, severity of inflammation and the presence and severity of abnormal immune reaction. Furthermore, we considered that these values might be used as a reference index to judge whether the patient's basic physical strength that is needed for recovery from the disease had improved.

In the tests, no case of recurrence of the disease was found in those patients who had been improved. We consider that a recurrence of the disease will not easily occur in patients whose organ innervation and physical strength have recovered with this combination treatment.

However, recovery of parts frequently and continuously impacted over a long period of time is almost impossible. Therefore, even after the cure from the disease by total treatment in the traditional medical method and the new treatment method has been accomplished, each patient needs to continuously deal with restrictions on caloric intake, sufficient hours of sleep, rest, and stress control, etc.

It is considered that improvement of the vertebral subluxation is the effective realization of the normal S-shaped spinal curvature with the 7th thoracic vertebra being the outermost vertebra on the curve, and that realization and maintenance of the normal spinal curvature is achieved by improvement and strengthening of the muscles that support the rachis.

With this combination treatment, it has been shown that the symptoms of atopic dermatitis and bronchial asthma were improved along with the improvement of Crohn's disease symptoms such as diarrhea, abdominal pain, and enteritis in Crohn's disease patients who were suffering concurrently from atopic dermatitis and bronchial asthma.

Based on the test results, we can state that the only treatment that can demonstrate fundamental effects on allergies such as atopic dermatitis, bronchial asthma, and pollinosis will have the potential to treat Crohn's disease.

In other words, we can state that a treatment that cannot fundamentally treat Crohn's disease cannot fundamentally improve conditions such as atopic dermatitis, bronchial asthma, pollinosis, and allergic coryza.

Conclusion

We were able to obtain significant alleviation and remission of these diseases by improvement of the neurotripsy caused by the chronically narrowed intervertebral foraminae from the 8th to the 10th thoracic vertebra. This is the innervation region relating to the adrenal glands and adrenal cortex and was impacted by changes in the vertebrae caused by vertebral subluxation in the thoracic region. This was commonly present in Crohn's disease patients and patients with allergies. Because of the improvement of the chronically narrowed intervertebral foraminae that are related to the innervation of the digestive tract with changes caused by vertebral subluxation in the region from the thoracic vertebrae to the lumbar vertebrae (in some cases to the sacrum) that are present in Crohn's disease patients, we came to the following conclusions:

1. There is a high possibility that allergies and Crohn's disease closely relate to the innervation of organs that relate to the immune function which are affected by changes in the vertebrae caused by vertebral subluxation.
2. There is a high possibility that the strength of the muscles supporting the rachis is closely related to the development and changes of symptoms common in patients with allergies and Crohn's disease patients.
3. There is an expectation of restraint, improvement, and prevention of the symptoms of these diseases by correcting the changes in the vertebrae caused by vertebral subluxation, which is common in patients with allergies and Crohn's disease patients.
4. There is an expectation of alleviation, remission, and prevention of development of symptoms by correcting the changes in the vertebrae caused by vertebral subluxation, which is common in Crohn's disease patients.
5. There is a high possibility that a preventative effect and significant reduction of the improvement period can be obtained by reinforcing and improving the muscles supporting the rachis.
6. There is an expectation of reduction of the improvement period, prevention of the disease, extension of a stable symptom remission period, and reduction of side effects of drugs by using a treatment that combines the Takeda Chiropractic Method with traditional medical treatment.

According to the results of this study the possibility may be considered that chronic nerve compression secondary to vertebral subluxation in the thoracic and lumbar regions had a significant effect on the immune function of these allergy and Crohn's disease patients. It is further postulated that this nerve compression leads to a chronic functional disorder having a significant effect on digestion, absorption of nutrients and liquids, conveyance of food as well as various other functions of the digestive tract extending to excretion.

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