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Case Study

Supplementary Effect of Oyster Extract on Depressed Patients under Treatment with Antidepressants (2nd Report)

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Summary

We examined the clinical effects of a new type of oyster extract with a zinc concentration three times higher than that of a previously tested sample (made by Japan Clinic Co., Ltd.) on 4 depressed patients and 6 normal control subjects. Doses of up to 3 tablets of this new oyster extract were administered to depressed patients for 6 to 10 days with or without antidepressants. We found that the clinical effects of the new oyster extract were almost the same as those of the previous one. However, from a clinical point of view, the fact that the new oyster extract requires smaller doses has an economic benefit. The zinc component of oyster extract is considered to play a major role in improving depression.

Introduction

Following on from previous studies[1−3)], we administered a new type of oyster extract with a zinc concentration about three times higher than that of a previously tested sample (made by Japan Clinic Co., Ltd.; see Table 1) to subjects including 4 depressed patients in order to observe its supplementary effects in combination with antidepressants.

An outline of the supplementary effects of oyster extract has already been provided in a previous report[3)]; therefore, this new clinical trial was undertaken to confirm if the same supplementary effect occurred by the administration of 3 tablets of a new type of oyster extract per day to depressed patients. Furthermore, adverse effects of the new type of oyster extract and its clinical effects on normal control subjects were examined.

Materials and Methods

Doses of up to 3 tablets of the new type of oyster extract were administered without dosage modification for antidepressants for 6 to 10 days to 4 depressive patients (♂ : ♀ = 0 : 4; mean age = 73 years; diagnosed with depressive neurosis, major depression, or bipolar disorder using the DSM-III diagnostic criteria). One subject with depressive neurosis was administered oyster extract only.

The dose of oyster extract was adjusted gradually from 1 tablet per day to 3 tablets per day. The dose of three tablets per day was administered for 2-3 days, and was then tapered to 1 tablet per day within 6 days. For one subject with depressive neurosis, 3 tablets per day were administered for 10 days from the beginning to the end of the trial without any additional medicament.

Table 1 Composition of oyster extract

	Previous type	New type
Protein (g/100 g)	28.1	28.3
Fat (g/100 g)	2.0	2.0
Ash (g/100 g)	15.4	15.8
Carbohydrate (g/100 g)	49.1	48.5
Fiber (g/100 g)	1.5	1.5
Zinc (mg/100 g)	37.7	150.0
Taurine (g/100 g)	5.5	5.4

250 mg of oyster extract is present in each tablet.

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Sleeping pills were administered in combination with the antidepressants (tricyclic antidepressants). For 3 subjects, (the exception being a subject with bipolar disorder), the self-rating depression scale (SDS)[4] test was performed before and after the trial.

Six normal control subjects (♂ : ♀ = 2 : 4; mean age = 48 years) were initially administered with 1 tablet per day. This was then increased to 3 tablets per day for a period of 2 days, following by tapering of the dose to 1 tablet per day within 6 days.

The subjects described their impressions and feelings during the trial in letters and discussions. This trial was carried out in a manner that ensured confidentiality for the participants and was in accordance with the Declaration of Helsinki regarding the use of human subjects in medical experiments.

Results

Increased energy levels were observed in all subjects within a few days. This improvement continued during the period of the clinical trial. After the trials, no rebound phenomena were observed.

One subject with bipolar disorder entered a manic state after just 6 days of administration of the oyster extract with antidepressants. The presence of a depressive, melancholic mood diminished markedly in all cases, and disappeared for one subject with depressive neurosis during the trial. With the exception of the one patient with bipolar disorder, no troublesome adverse effects were observed in the patients and the normal control subjects.

The normal control subjects mainly described feelings of increased energy or the disappearance of fatigue. In contrast to the reactions to the previous type of extract, no adverse reactions were observed in the normal control subjects.

To indicate the effects of the oyster extract more clearly and precisely, we provide a summary of the background and study findings for 8 subjects : 4 (Nos. 1-4) were administered the new type of extract, 4 (Nos. 5-8) were administered the previous type.

Case 1

Widow, 87 years old. She lives separately from her son's family. She frequently complained of sleep disturbance and depression. She took "Triazolam" for a long time to induce sleep, but was nonetheless unable to sleep well. She enjoyed poetizing, but had recently been worried about her dimished capacity to do this. She had an assigned workload to be completed each month, although she was hesitant to continue to participate in this program. Furthermore, she became depressed at the news of the deaths of neighbors and old friends. She felt guilty because she had outlived these people.

She took 3 tablets per day from the beginning of the trial. She exhibited improved symptoms by the third day. After 10 days of the trial, she could poetize without difficulty and was able to receive many guests with ease. At this stage, her SDS scale score was from 34 to 36.

Case 2

Housewife, 61 years old. Her husband had undergone a surgical operation for pancreatic cancer and she now had difficulty cooking for him (he needed to follow a special diet). She placed great importance on the wellbeing of her husband. She was melancholic every spring and autumn. She was in a poor condition at the time of the trial (autumn). She was being treated with a moderate dosage of tricyclic antidepressants and sleeping pills. She initially took 1 tablet per day and then her dosage was gradually increased to 3 tablets per day. Three tablets were administered for 2 days. Her symptoms improved within a few days and she spent the 6 days of the trial tirelessly. She was no longer pessimistic and enjoyed her daily domestic duties. She expressed her thanks to us. Her SDS scale score was from 43 to 34.

Case 3

Widow, 71 years old. She has two sons, but they live apart from her. She attended hospital as an outpatient. When in a severely depressed state, she spent her days wishing to go to her husband's side (who had passed away). She had been treated with a moderate dosage of tricyclic antidepressants for a number of years without success and had been unable to enjoy cooking for a long time.

She initially took 1 tablet per day, which was gradually increased to 3 tablets per day. During the 6 days of the trial, her symptoms improved and she became cheerful and in good humor. Her SDS scale score was from 30 to 25.

Case 4

Widow, 72 years old. She had divorced three times and was childless. She had suffered from bipolar affective disorder for many years, and suffered from slight depression prior to the trial. She took a small dose of tricyclic antidepressants and sleeping pills as an inpatient of a hospital.

She initially took 1 tablet per day, which was gradually increased to 3 tablets per day for a period of 2 days. The dose was then decreased to 1 tablet over 6 days. Just as the trial was over, she left the hospital without permission. Afterwards, she explained that she had left to meet her last husband (although she did not know where he lived). Furthermore, she asked her doctor to return some money that she had borrowed from another inpatient.

Case 5

Housewife, 54 years old. She had no physical symptoms. She was experiencing her first depressive episode, with major complaints of severe loss of energy and appetite, as well as insomnia. It was determined that she should receive drug therapy and psychotherapy in hospital as soon as possible. She was given 10 tablets of oyster extract per day with antidepressants and sleeping pills. Her symptoms improved the next day, and her depressive mood had disappeared entirely. She requested to leave the hospital and did so within a week.

Case 6

Housewife, 35 years old. She had attempted to commit suicide by inhaling gas while in a severely depressive state. She failed, but accidentally started a fire in the attempt. Her first daughter perished in the fire and her second daughter received burns over her entire body, while the woman herself was not injured. As a result, she felt extreme guilt. She was administered strong anti-depressive drugs and underwent intensive psychotherapy on a daily basis, but her symptoms did not improve.

In the trial, she was administered 10 tablets of oyster extract per day in addition to tricyclic antidepressants and sleeping pills. Around the third day of administration of oyster extract, she exhibited a marked improvement in energy level, and took a walk in the hospital garden every morning. However, this improvement did not persist, and several days later she was again spending almost all her time in bed.

Case 7

A postgraduate student, 25 years old. He had suffered from bipolar affective disorder since the age of 15. He had spent about half a year in a hypo-manic state and half a year in a sub-depressive state. While in the sub-depressive state and under treatment with antidepressants and sleeping pills, he was administered 10 tablets of oyster extract each day. His symptoms improved within a few days and he recommenced his studies. However, he gradually returned to his original state.

Case 8

A research worker, 48 years old. He had suffered from bipolar affective disorder since the age of 20. His condition had been satisfactory (so-called remission) during the previous 7 years. However, he was required to study and work over 10 hours every day and had not taken a holiday for more than 4 years. As a result, he finally succumbed to his severe depressive state again. He took 5 tablets per day of oyster extract with no anti-depressive medicament for 1 week, but his symptoms did not improve.

Discussion

Although the number of cases in this study is small, our results suggest that this new type of oyster extract has almost the same supplementary anti-depressive effects on depressed elderly female patients as the previous type. However, more cases will need to be studied to confirm our results. To investigate the relationship between this effect and the gender and age of subjects, more male and young subjects will have to be examined.

It is worthy of special mention that a melancholic, depressive mood was alleviated in all cases, and in one subject with depressive neurosis, this oyster extract had a marked antidepressant effect without the simultaneous use of anti-depressive medicaments. However, the adverse reaction that involved a subject entering a manic state will have to be considered in future trials.

The smaller number of tablets required for the new type of oyster extract to improve the depressive state is also beneficial compared with the previous type from an economic viewpoint. Finally, in view of the anti-depressive effect of "Taurine"[5,6], we consider that the main anti-depressive effect of oyster extract originates from its zinc component[7–9]. Notably, the main difference between the two types of oyster extract is the concentration of zinc.

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