CASE REPORT

Cognitive behavioural therapy for depression in multiple endocrine neoplasia type IIB: a 1-year follow-up

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SUMMARY

This case report describes a 24-year-old man diagnosed with multiple endocrine neoplasia type IIB and major depression. Because cognitive behavioural therapy (CBT) has proven effective in the treatment of major depression in the general population and patients with cancer, we decided to adapt and use this therapy and evaluate its impact on major depression and the patient's quality of life. The therapy was conducted individually in 15 sessions that were given over a span of 25 weeks. The data show that therapy was a useful treatment that reduced depression according to the Diagnostic and Statistical Manual of Mental Disorders (DSM)-IV criteria and self-report instruments. CBT also helped improve the patient's quality of life, and it was considered to be an acceptable intervention for the patient, with ongoing positive results 1 year after the last psychotherapy session. CBT is a potential option for treating depression in this population but further research is needed.

BACKGROUND

Multiple endocrine neoplasia type IIB (MEN IIB) is a rare autosomal-dominant syndrome that predisposes affected individuals to the development of benign and malignant tumours in hormone-secreting glands. Of all cases of type II MEN (1:30 000 people), the MEN IIB subtype represents just 5% of the problem. Even though MEN IIB prevalence is low, it has been reported to be highly aggressive in patients.¹

MEN IIB manifests itself in different ways: medullary thyroid carcinoma, pheochromocytomas, mucosal neuromas and ganglioneuromatosis. Individuals with MEN IIB may show developmental abnormalities, such as a decreased proportion of the upper or lower limb, skeletal deformities, tenderness of the joints and a body habitus similar to that of 'Marfan syndrome', and may exhibit a higher probability of death than other subtypes of MEN II.^{1 2}

The clinical manifestations mentioned above cause many emotional problems in patients carrying this disease, such as sadness, disappointment, shock, anger, fear of death, grief, a negative image of one's own body, anxiety and depression.³ However, because of its rarity, the psychological impact of MEN IIB on patients and the possible treatments intended to cure the condition have not been extensively evaluated. This lack of evaluation leaves a large gap in evidence in the field.

We report a case of a patient with MEN IIB who was concurrently diagnosed with major depression and did not want to be treated with medication. Because cognitive behavioural therapy (CBT) has proven effective in the treatment of major depression in the general population and patients with cancer,^{4 5} we decided to adapt and use this therapy and evaluate the impact of this therapy on major depression and the patient's quality of life.

CASE PRESENTATION

The 24-year-old male patient was a single university student living with his nuclear family. He had been diagnosed with MEN IIB and recurrent thyroid cancer. He had undergone different surgical procedures throughout his life: clubfoot correction, eyelid papilloma resection, resection of the gingiva due to chronic gingivostomatitis, resection of a palatal fibroid, hemithyroidectomy, total thyroidectomy, mediastinal dissection, resection of nodules and bilateral radical neck dissection. He had also been treated with chemotherapy and radiotherapy. The patient had the phenotype and features of patients with MEN IIB: micrognathia, marfanoid habitus, mucosal neuromas, a longer upper part of the body than the lower part of the body and prominent and thickened lips. At the beginning of the psychological evaluation, the patient had been diagnosed with major depressive disorder with 5 years of evolution, without antidepressants because he refused to receive this treatment. The patient had been discharged from radiotherapy treatment for 5 years, and his calcitonin levels had been monitored since then.

In addition to the diagnosis of major depression given by psychiatry and corroborated by psychology, we performed a functional analysis based on the clinical pathogenesis map to identify factors related to the problem.⁶ We also applied self-report instruments to identify the severity of the depression (Mexican validation of Beck's 21-item questionnaire on depression, and a mood thermometer with a score ranging from 0 (without depressive mood) to 10 (top level of depressive mood)). Additionally, the European Organization for Research and Treatment of Cancer instrument (EORTC QLQ-C30) was used to evaluate the patient's quality of life.^{7 8}

From the information collected, it was found that the mockery, bullying and abuse associated with the phenotype and the emergence of cancer in the patient led to the occurrence of negative

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Table 1 Scores of depression and quality of life

Instrument	Preassessment	Postassessment	1 year follow-up
DSM-IV major depression criteria	7 Symptoms (1–4, 7, 8 and 9)	2 Symptoms	2 Symptoms
Beck Depression Inventory	20	5	9
EORTC QLQ-C30	58	75	75

DSM, Diagnostic and Statistical Manual of Mental Disorders; EORTC European Organization for Research and Treatment of Cancer.

cognitive responses such as “I am very weird,” “people criticize me” and “my life is tragic and it is not worth it.” As an instrumental response, the patient would lock himself in his room and avoid interaction with people. The predominant emotions that he would experience were depression and anhedonia, which resulted in little social support, a lack of acceptance of his phenotype and disease, and development of the depression with suicidal ideation.

TREATMENT

CBT components that have been successfully tested in other populations with cancer were used and adapted. We created five intervention modules: (1) psychoeducation about depression and MEN IIB, (2) behavioural activation, (3) restructuring of negative thoughts, (4) training in social skills and (5) assertiveness. The therapy was conducted individually in 15 sessions that were given over a span of 25 weeks, with each session lasting 1 h. The outline of each session was organised in the following way: a review of tasks, a review of self-reports, psychoeducation (if required in the session), planned activities and a description of the main conclusions of the session and allocation of home activities. These activities were aimed to reinforce what the patient had learned during the session, and to make him capable of using the skills learnt during the session in everyday life. During the therapy, the patient kept a weekly register about his perception of his depression using a mood thermometer. There were two post-treatment assessments: the first was performed 1 week after the therapy had ended, and the second was performed 1 year after the end of the treatment.

OUTCOME AND FOLLOW-UP

During the pretreatment assessment, the patient matched all of the diagnostic criteria for major depression according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV criteria symptoms 1–4, 7, 8 and 9) and reached a score of 20 on the Beck Depression Inventory (BDI)-D, indicating moderate depression, and a score of 58 on the EORTC QLQ-30, showing that the patient had a regular quality of life. The post-treatment data and the data from the 1-year follow-up tended to show that the patient did not meet the diagnostic criteria for major

depression. In a similar way, the Beck’s depression scores fell to minimal depression (5 and 9). The quality of life reported by the patient increased by up to 75 points in both assessments, and the postassessment scores on the functional scales were even better (table 1). The data from the mood thermometer showed that the perception of depression tended to decrease throughout the 25 weeks (figure 1).

DISCUSSION

The data show that CBT was a useful treatment that reduced depression according to the DSM-IV criteria and self-report instruments. CBT also helped to improve the patient’s quality of life and was considered to be an acceptable intervention for the patient, with ongoing positive results 1 year after the last session of psychotherapy. This finding is consistent with reports on the effectiveness of CBT in depressed and cancer populations, and is relevant due to the aggressiveness of the disease as well as the limited psychological research on MEN II, and particularly on subtype IIB, that have been reported in databases such as PubMed, PsycINFO and CINAHL.

Owing to the nature of the case study, many confounding variables that could have influenced the patient’s decrease in depression and improvement in quality of life were not controlled, making it necessary to develop studies that can control these variables. Owing to the rarity of the disease, we recommend the use of multicentre, randomised controlled trials to recruit the population, or the use of single-case experiments that would allow better control in the research. Despite the study’s limitations, to the best of our knowledge, this is the first case report that emphasises the impact of CBT on depression in a patient with MEN IIB and which concludes that CBT is a potential option for treating depression in this population.

Patient’s perspective

The patient reported that he found the therapy useful because it reduced negative thoughts and increased his social activities, which led to an improvement of his mood.

Learning points

- ▶ Multiple endocrine neoplasia type IIB is a very uncommon and distressing disease.
- ▶ Cognitive behavioural therapy (CBT) is a potential option for treating depression and improving quality of life in this population.
- ▶ As a next step, it is necessary to develop controlled studies to assess the effect of CBT in this population.

Figure 1 Scores of mood thermometer. The figure showing that the perception of depression tended to decrease over the 15 sessions given over a span of 25 weeks and tended to maintain follow-up.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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