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Case Report / Olgu Sunumu

Eye Movement Desensitization and Reprocessing (EMDR) for Hyperemesis Gravidarum: a Case Series

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ABSTRACT

Eye movement desensitization and reprocessing (EMDR) for hyperemesis gravidarum: a case series

Hiperemesis gravidarum (HG) is a serious condition during pregnancy that effects 0.3-2% of the pregnancies. It is among the most frequent reasons for the hospitalization of pregnant women during prenatal period. There are many factors that cause the development of HG, including psychiatric factors. A lot of women with HG need a psychiatric evaluation and support. It is a challenging disorder for psychiatrists because it does not have a standard clinical diagnostic criteria and a determined psychiatric treatment. Eye Movement Desensitization and Reprocessing (EMDR) is a new psychotherapy method different from the usual psychotherapy approach that has shown to be effective in the treatment of posttraumatic stress disorder (PTSD). The curative effect of EMDR on PTSD is explained with adaptive information processing. EMDR practice in PTSD provides the desensitization of the triggers of traumatic stimuli. In this study, the hypothesis suggesting that EMDR has desensitization effects on nausea and vomiting and on their triggers in HG cases were investigated. Five patients with HG were enrolled in the present study. Triggers that cause nausea and vomiting were treated with EMDR. While four of the five cases rapidly responded to EMDR therapy, one case had recurrent HG symptoms whose further clinical evaluations revealed gall bladder disease. EMDR approach may be an effective adjunctive treatment option for HG symptoms.

Key words: EMDR, hyperemesis gravidarum, pregnancy, psychotherapy

ÖZET

Hiperemesis gravidarum tedavisi için göz hareketleri ile duyarsızlaştırma ve yeniden işleme (EMDR) tedavisi: Olgu serisi

Gebelikte Hiperemesis gravidarum (HG) oldukça ciddi bir durumdur. Gebelerin %0.3-2.0'sini etkiler ve doğum öncesi dönemde kadınların en sık hastaneye yatma nedenidir. HG'nin gelişmesinden psikiyatrik nedenleri de içererek birçok etken sorumludur. HG'li birçok kadın psikiyatrik değerlendirme ve desteğe gereksinim duyar. Resmi bir tanısı ve belirlenmiş bir tedavisinin olmayışı nedeniyle psikiyatristler için zorlayıcı bir durumdur. Göz hareketleri ile duyarsızlaştırma ve yeniden işleme (EMDR) alışılmış psikoterapi yöntemlerinden farklı yeni bir tedavi yöntemidir. Travma sonrası stres bozukluğunun (TSSB) tedavisinde etkinliği gösterilmiştir. EMDR'nin TSSB üzerindeki tedavi edici etkisi uyumsal bilgi işleme modeli ile açıklanmaktadır. EMDR, travmatik uyaranların tetikleyicilerine karşı da duyarsızlaşma sağlar. Bu çalışmada EMDR'nin bulantı, kusma ve HG'nin tetikleyicilerine karşı duyarsızlaşma sağlayabileceği varsayımı değerlendirildi. HG'li beş kadın çalışmaya alındı. Bulantı ve kusmaya neden olan tetikleyiciler EMDR ile işlendi. Olguların dördü EMDR terapisiyle hızla düzelirken, safra kesesi sorunu saptanan bir olgunun belirtileri tekrarladı. HG belirtilerinin tedavisinde EMDR etkili bir yardımcı tedavi seçeneği olabilir.

Anahtar kelimeler: EMDR, hyperemesis gravidarum, gebelik, psikoterapi

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INTRODUCTION

Nausea and vomiting during pregnancy affect 78-89% of women and are considered to be normal (1,2). Nausea and vomiting during pregnancy start during the first trimester in 99% of the affected women (1,2). In one third of the cases, these conditions cause significant distress. Excessive salivation and dry gagging are frequent accompanying complaints in nausea and vomiting of pregnancy. When nausea and vomiting are severe enough to cause dehydration or starvation, hospitalization is required. The requirement for hospitalization is a practical criterion in differentiating normal nausea and vomiting of pregnancy from

Hyperemesis Gravidarum (HG) (3). In a research setting, weight loss of 5% or more is used as a criterion for HG; however it is clinically impractical.

It is not clear whether HG is a different disease or the severe end of the spectrum in nausea and vomiting of pregnancy. No special diagnostic test is available for HG. Since nausea and vomiting are universally seen in almost all women during the early pregnancy, HG has been considered to be an unrecognized inter-current illness, pre-existing ill health or aggravated nausea and vomiting of pregnancy due to excessive maladaptation to the early pregnancy changes. Various risk factors such as hyperthyroidism, psychiatric disorders, pre-existing diabetes, gastrointestinal disorders, asthma etc. have been identified for HG. If one or more of such disorders exist in a pregnant woman having nausea and vomiting, then it is vital to identify and treat them.

HG is generally accepted to affect 0.3-2% of the pregnancies (4). It is among the most frequent reasons for the hospitalization of pregnant women during prenatal period (5). The length of hospital stay is typically 3-4 days (5,6). Women with HG reported that the symptoms of the disease have started approximately two weeks before prior to hospital admission (7). It was found that the symptoms were persistent over 95% of the women in two weeks after being discharged from the hospital (8). The rate of readmission is a significant number like 25% (6). Generally, the symptoms of normal pregnancy nausea and vomiting gradually decrease (1); the condition recovers in 60% of the affected pregnancies by the 12th week and in over 90% by the 16th week, whereas, for HG cases, recovery during the 12th week is seen only in 25% of the pregnancies and observed to continue during the 16th week of pregnancy in 50% of the pregnancies (4). It has been reported that before the advances in intravenous fluid treatment, 10% of the HG patients used to die, and the maternal deaths due to HG was as high as 159 in one million births. Currently, the deaths are rare thanks to advances in intravenous fluid treatment (4).

Nausea and vomiting in pregnancy are regarded as advantages in terms of evolutional biology and they are considered to function as mechanisms of reducing the ingestion of harmful substances at a period of time when the fetus is most vulnerable (4). At present, safe foods can easily be accessed so it is thought that this presumably self-protection mechanism of the embryo provides limited benefits and can cause trouble or worsen the situation (7).

It has been unable to explain the exact etiology of HG up to now. Hormonal factors such as high level of human chorionic gonadotropin, thyroid axis abnormalities, and high estrogen level, genetic reasons, gastro esophageal reflux, helicobacter pylori and psychological factors have been blamed in its etiology (7).

Hypotheses suggesting that nausea in pregnancy has a psychological origin have tried to explain this situation with reasons like rejection, ambivalence, conflict, dependence, aversion, immaturity, conversion and hysteria (3,4). In 57% of women with HG, the symptoms like anxiety and depression are present and these symptoms develop as a consequence rather than a cause of HG (7). Uguz et al. (9) reported that prevalence of any mood disorder and any anxiety disorder in women with HG was 15.4% and 36.5%, respectively. In addition, 19 (36.5%) of the patients with HG had at least one personality disorder.

Among studies conducted on women with HG, some studies show that psychiatric disorders are more than controls while there are other studies showing no difference between them, so the relationship between psychiatric disorders and HG is still uncertain (8). In HG, psychiatric evaluation is frequently required; the fact that it does not have official diagnostic criteria and a determined psychiatric treatment approach makes it a challenging disorder for psychiatrists (8).

HG treatment is arranged according to the requirements of the patient. Intravenous fluid replacement and antiemetic drugs are primarily used in the treatment. In individuals, who cannot eat for a long time, thiamine supplement is necessary to prevent Wernike encephalopathy (8). Hyponatremia needs to be corrected to prevent another severe complication of HG, central pontine myelinolysis (8). In addition to intravenous nourishment and antiemetics, diet and life style changes, ginger extracts, acupuncture, corticosteroids are proposed in the treatment (8).

Behavior therapy, dynamic psychotherapy and

hypnosis are among the recommended psychotherapy approaches in HG treatment (10). Hypnosis is the approach that has been extensively studied and suggested to be effective (11). Matteson et al. explained HG as a classical conditioning (12). According to them, nausea and vomiting is a common experience in pregnant women. A harmless stimulus (unconditioned), turns into a conditioned stimulus with repeated exposure to nausea and vomiting. Conditioned stimulus may trigger nausea and vomiting. Frequent repetition of nausea and vomiting results in generalization of this situation and many unconditioned stimuli turn into conditioned stimuli. And these may lead to nausea and vomiting (12). Hypnosis demonstrates its effect on these conditioning and provide treatment. Similarly, cancer patients undergoing chemotherapy may exhibit conditioned reaction (nausea and vomiting) when opposed to conditioned stimuli (e.g. seeing a nurse) after the first or sometimes after a couple of chemotherapy applications. Hypnosis, progressive muscle relaxation exercises and behavioral psychotherapy techniques have been used for the treatment of this condition (13).

Post-traumatic stress disorder (PTSD) is a chronic disorder that develops as a consequence of being exposed to a life threatening trauma or stress and leads to dysfunction (14). Eye Movement Desensitization and Reprocessing (EMDR) is a new developing psychotherapy method different from usual psychotherapy approaches. It is shown to be effective in the treatment of posttraumatic stress disorder (15). The curative effect of EMDR on PTSD is explained with relaxation, orientation reflex and adaptive information processing not with extinguishing the conditioning via exposure (16). With EMDR treatment in PTSD, desensitization to the triggers of traumatic stimuli develops (17). According to the associated learning method of PTSD, fear responses are generalized to include situations and stimuli, which are relatively similar to the original trauma (18). The stimuli and triggers similar to the original trauma lead to some level of fear and other physiological responses in the individuals. The subsiding response provided by EMDR in the fear and physiologic stimuli developed in response to triggers may also be effective in treatment of nausea and vomiting associated with triggers developing in HG and similar disorders.

So far, the effectiveness of EMDR in HG has not been tested. In this study, the hypothesis whether it is possible to gain desensitization to nausea and vomiting and to their triggers in HG cases has been tested. The cases admitted to gynecology ward as inpatients with HG diagnosis, who developed weight loss, acetone positive and imbalance in liquid electrolyte, having persistent nausea and vomiting non-responsive to the treatment were included to the present study. Dr. O.K. conducted EMDR applications. Dr. O.K. is an EMDR therapist with first and second level certificates. In the present study, bilateral stimulation method (tapping) was used in all the cases, as eye movements might result in nausea in some cases.

CASE 1

HY was 28 years old female, teacher, married for two years, 16 weeks pregnant, spent approximately the last eight weeks of her pregnancy in the hospital due to HG. The patient had to be re-hospitalized for a short period every time after being discharged. Lost nine kg due to severe nausea and vomiting. She identified complaints of weeping crisis, not being able to eat, excessive irritability, dizziness, palpitations from time to time, not being able to stay alone. She reported an experience as if she had felt like dying after vomiting.

Mrs. HY got pregnant at a time when she was making career plans and was not ready for pregnancy. Then learnt that she was expecting twins. Though she had to change her career plans completely, she reported that she was happy with her pregnancy. She receives attention and support from her spouse, her own parents and also from her parents-in-law.

Intervention to The Hyperemesis Gravidarum with EMDR:

The consent of the patient was obtained before the treatment. Firstly, when bilateral stimulation was being applied, she was asked to review what she had experienced starting from the moment that she learnt that she was pregnant like a movie. The patient watched the same scenario over and over again. HY identified

endless instances of vomiting triggered with various scents, food and odor that she had experienced between the hospital bed, bathroom sink and serum bottles. She reported sensitivity especially to odor. She recalled food smells, hospital smells, smells of other patients and identified the need for vomiting along with this recalling.

In this stage of the study, the patient was asked to focus on the worst smells that she could remember. The patient focused on the smells that she had reported to trigger her nausea and vomiting. Smells that triggered her disturbance like various foods, hospital, bathroom sink, and cigarette smoke were arranged in an order according to the level of disturbance, and bilateral stimulation was applied starting from the most disturbing smell. Bilateral stimulation was continued until desensitization related to the smells was achieved. At the beginning, nausea and need for vomiting aroused when the patient focused on the smells. With the continuation of bilateral stimulation it became desensitized and the sensation of nausea and vomiting decreased significantly. The session was ended with a safe place exercise that is present in EMDR protocol.

When the patient came back the next day for the second session, it was learnt that she did not have to stay in the hospital and her complaints of nausea and vomiting decreased significantly after the first session and that she was able to eat. In this session, other smells triggering her symptoms were investigated and bilateral stimulation was applied until desensitization was achieved.

She was contacted by phone a month later and the patient reported that she had no HG related symptoms and was experiencing a normal pregnancy.

CASE 2

EY was 24 years old female, police officer, 11 weeks pregnant, first pregnancy, having a planned and desired pregnancy. She was receiving treatment due to complaints of vomiting 8-9 times a day, hyperthyroidism, hyper emesis, kidney and low back pains, cystitis. She lost five kg in a month. She identified excessive sensitivity to various smells like the smell of the refrigerator, bathroom sink, cleaning substances. Desensitization to the smells was performed. After the application of a single EMDR session, HG symptoms disappeared and she was discharged. During her follow-up by telephone, she reported that she no longer had sensitivity to smells and was able to eat.

CASE 3

MC was 20 years old female, married for two years, third pregnancy, had two miscarriages. She had a high frequency of vomiting at home, which decreased when she came to a hospital but did not subsided completely. She lost seven kg during pregnancy. She was subjected to domestic violence during the early periods of her marriage, cheated on her husband. She got pregnant during such a relationship, with anger towards him and this violence, then she had an induced abortion. She reported that she had experienced intense stress when she returned home and the frequency of her vomiting increased. She had to stay in the hospital continuously for the last month. According to DSM IV criteria, MC was diagnosed with post-traumatic stress disorder. Her traumatic experience

Table 1: Standart EMDR protocol

Obtaining patient history	
Preparation:	Informing the patient, evaluation of the literature
Evaluation:	Selecting the picture that present the traumatic life the best
	Determination of the negative cognition
	Determination of the positive cognition that is desired to be accessed
	Validity of the positive cognition (VOC:1-7)
	Determination of the formed emotions
	Subjective degree of the disorder (SUD:0-10)
	Determination of body sensations
Desensitization:	Application of bilateral stimulation sets
Installation:	Placement of positive cognition
Body scanning:	Evaluation of whether body sensation remains, or not
Closure:	Obtaining feedback from the patient related to the session and ending the session
Re-evaluation:	Evaluating the previous session and previous week

VOC: validity of cognition, SUD: subjective unit of disturbance

was treated with standard EMDR protocol (Table 1) for two session in two consecutive days. Her vomiting ended, she was able to go home. She reported no symptoms of PTSD and HG during the follow-up.

CASE 4

ZK was 33 years old, primary school graduate, housewife, fifth pregnancy, had two miscarriages, two healthy children. She was hospitalized due to HG at the 13th week of pregnancy and she lost 8kg during the last month. Her complaints could not be corrected with anti-emetics and standard HG treatments. She could be discharged. She did not have HG in her previous pregnancies. Nausea and vomiting are triggered with toilet smells, car, oil, diesel oil smells. She had poor appearance, had concerns whether she could provide care for her baby, or not and whether her vomiting would recover, or not. She had no psychiatric history before pregnancy. The smells that she was disturbed with were focused on with EMDR desensitization was applied. Her symptoms alleviated after the first session and she was discharged from the hospital. Her symptoms did not relapse during follow-up.

CASE 5

MU was 22 years old, married for a year, pregnant for 17 weeks. Her vomiting started the moment she learnt that she was pregnant. She had to stay in a different hospital and was staying in the university hospital for a month. Urinary tract infection and cholelithiasis were detected. She also received treatment focusing on these conditions. Her nausea and vomiting are triggered with smells like cigarette, perfume. Desensitization with EMDR directed to these smells was performed. Her nausea and vomiting disappeared and she started eating and was discharged the next day. Three days later, she was hospitalized again with HG complaints; standard treatments and EMDR were applied again. She was discharged again with improvement in her clinic table. Three days later, she had to be hospitalized again with HG complaints. As a result of the performed consultations, her HG complaints were determined to be associated with gall bladder disorder.

DISCUSSION

Nausea and vomiting in pregnancy are probably beneficial evolutionally mechanisms for the protection of fetus (4). HG, on the other hand, is a medical condition that causes distress for the mother and probably for the fetus different from being normal nausea and vomiting in pregnancy. The cases that do not positively and effectively respond to the standard treatments are challenging conditions both for the gynecologists and psychiatrists. For the cases with weight, electrolyte losses and dehydration the application of swift and simple treatment methods is of premium significance. For the cases investigated in the present study, EMDR approach provided a positive response in one or two sessions, and thus it helped their early discharges within one or two days by reducing their long treatment procedures.

The contributing factors of HG development have not been sufficiently investigated. It has been suggested that there is a Pavlovian conditioning in HG. Normal vomiting of pregnancy (unconditioned stimulus) leads to the conditioning of harmless stimuli at least in some cases and nausea and vomiting are triggered when these stimuli are encountered. After a while, it may lead to endless nausea and vomiting that results in HG with the generalization of this conditioning (12). Many studies of hypnosis that are reported to be useful in HG treatment are present and nausea and vomiting conditioning become probably extinct in these applications (11).

EMDR approach may be effective in HG treatment like hypnosis. Probably, EMDR takes effect in HG treatment through different mechanisms. EMDR may form relaxation in the patient. It is reported that it may lead to relaxation by providing an automatic parasympathetic tonus in eye movements, which is a component of EMDR (19). Initiating of parasympathetic tonus will lead to decrease in sympathetic excitation and lead to relaxation. In addition to a general relaxation, it may result in relaxation in the abdominal muscles, diaphragm and body in general and reduce triggering for nausea and vomiting.

Shapiro (17) explained the processing mechanism of EMDR with Adaptive Information Processing (AIP).

According to this model, the distressful memories are not processed sufficiently and they remain as a stuck at neurological level. EMDR allows re-processing of these memories (17). EMDR proposes a general model for psychotherapy for any condition where environmental factors play a role, that is, learning, conditioning, or stress (16). EMDR procedures have demonstrated effects that included the following: a) enhancing the retrieval and reducing the vividness of autobiographical memories, b) increasing attentional flexibility thereby promoting new associations to old memories c) decreasing psycho-physiological arousal associating with negative autobiographical memories (16).

Learning, conditioning and stress related with specific stimuli created in HG may be removed via EMDR and the physiological arousal may be normalized. As a result of EMDR application against the stimuli triggering the nausea and vomiting of patients presented in this study, it became possible to remove the nausea and vomiting conditioning. Besides, the patients reported that they felt a general relaxation and could not recall the stimuli triggering their nausea and vomiting and their focus on them subsided (reducing vividness of distressing memories).

Differently from hypnotic applications, no suggestion was applied to prevent nausea and vomiting of the patients in this study. All of the cases in the present study started to eat after the first or second EMDR session and they were able to be discharged on the same day or the following day.

When working with cases number one, two and four, a standard eight-stage EMDR protocol was not applied and the EMDR protocol was changed according to the requirement of the patient. Because they did not report any traumatic experience, for these patients, the direct triggering stimuli were focused, which was different from the standard protocol and desensitization was achieved. The dysregulated physiology of the investigated cases because of nausea, vomiting, weight loss did not make a long-term treatment possible; sometimes EMDR treatment conducted while the patients were seated in their beds. The standard protocol was changed in terms of length of the treatment, as the clinical conditions of the patients did not allow 90-minute sessions to be conducted. During the application, the components such as validity of cognition (VoC), subjective unit of disturbance (SUD), and positive cognition were not sought. In order to attain a rapid recovery in the eating problem of the cases, holistic solutions and evaluations for psychiatric problems were not sought. The stimuli triggering the nausea and vomiting were targeted directly. In a short period, the cases developed a kind of desensitization against the disruption resulting from triggers they imagined. As their nausea subsided, some cases could eat right after the first session.

Though case number three had HG complaints, the symptoms of the patient met PTSD diagnosis. It is very likely that her nausea and vomiting were due to the intense stress, as she experienced increases when she went home and decreases when she was admitted to a hospital where she felt safer. For the treatment of the traumatic experience which case three experienced, standard EMDR protocol was applied. Following the treatment, PTSD symptoms and HG signs recovered. The patient could go home after the treatment and stay there without having any trouble.

Although the symptoms in case five recovered at the beginning, they relapsed after her discharge. Her persistent complaints despite the treatment were attributed to gall bladder disorder. Since HG is a multi-factored disorder, EMDR should not be expected to be effective in every patient. It is vital to correct the underlying disorders. EMDR, hypnosis or other psychotherapeutic approaches should be evaluated as adjunctive therapies in addition to standard medical approaches in resistant cases. The findings of this study show that EMDR approach may be an adjunctive option in resistant HG cases.

The present study, targeting the recovery of HG symptoms in the patients, might have some limitations resulting from the inability of a holistic treatment of the psychiatric problems of the cases. In a study conducted on 47 patients with both HG and psychiatric problems, it was found that the psychiatric problems persisted throughout the pregnancy of the patients with HG (20). For these types of patients, it might be an appropriate approach to evaluate all possible psychiatric diagnosis

along with HG signs and, if there are, to provide clinical support for these problems. Nevertheless, as it was conducted in the present study, providing rapid recovery in the HG symptoms might increase the coping abilities of the women and in turn, might lead to the emergence of less psychiatric problems.

In the present study, conducting desensitization only through tapping stimuli without conducting other bilateral stimuli might be a limitation. Whether positive responses in HG cases might be attained by means of other bilateral stimuli should be investigated.

Nausea and vomiting may be a defense directed to the protection of the fetus evolutionally and it may be appropriate not to attempt to treat it. However, HG is a severe end point of pregnancy nausea and vomiting and is a condition that threatens the pregnant woman and the fetus. At least, in some cases where psychological factors are the agents, EMDR method may provide a fast response. It is obvious that further studies are required in this field.

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