

Psychiatric consultation of patients with hyperemesis gravidarum

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Abstract The request for a psychiatric examination of patients with hyperemesis gravidarum (HG) is a unique challenge for the psychiatric consultant. Unfortunately, there are little data in the psychosomatic medicine literature to guide diagnostic evaluations and treatment of patients with HG. In this article, we summarize the existing literature and propose a practical approach to such patients based on the literature and our clinical experience.

Keywords Hyperemesis gravidarum · Psychiatric · Depression · Anxiety · Psychosomatic · Nausea · Vomiting · Pregnancy · Consultation · Treatment

Introduction

The request for a psychiatric examination of patients hospitalized with hyperemesis gravidarum (HG) is a unique challenge for the psychiatric consultant. There are no official diagnostic criteria or definitions of HG. Generally HG, or severe nausea and vomiting during pregnancy, is characterized by intractable nausea and vomiting, dehydration, and the loss of at least 5% of body weight. In very severe cases, electrolyte abnormalities and fetal growth restriction can occur. HG begins in the first trimester (between weeks 4 and 10) and can last throughout pregnancy, although the symptoms usually resolve by week

20. It affects 0.5%–2% of pregnant women and 10% of those will require at least one inpatient hospitalization (Tsang et al. 1996).

HG is currently conceptualized as a biologic illness with an unknown pathophysiologic cause. There is no data to support HG as a psychologically mediated process. Still, psychiatric consultants are often called to evaluate women hospitalized with unremitting HG. Often both the psychiatric consultant and the patient are unclear as to why the psychiatric consultation was requested. Certainly a comorbid psychiatric disorder may be worsening a patient's clinical course of HG but when primary providers feel frustrated by the patient's lack of symptom resolution, they may call on the psychiatric consultant to diagnosis the HG as depression or a psychosomatic syndrome. In addition, the psychiatric consultant may find patients with HG are reluctant to talk about their psychological issues due to feeling misunderstood as a "psychiatric patient". Unfortunately, there are few data in the psychosomatic medicine literature to guide diagnostic evaluations and treatment of patients with HG.

In this clinical practice article, we attempt to bridge the gap between the psychiatric consultant, the primary provider and the patient with HG by presenting a practical and patient-centered approach to evaluating and caring for such patients.

Historical perspective

There has always been disagreement in the literature about the association between HG and psychiatric illness. Most early, descriptive case studies reported that it was the result of an "immature" personality structure, rejection of the pregnancy, ambivalence about motherhood or "a cry for

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help” (Tsoi et al. 1988). The symptoms of nausea and vomiting have been referred to as “attention seeking” and were thought to be more common in patients with dependency issues (Harvey and Sherfey 1954; Zechnich and Hammer 1982). Although there have been dissenters (Martin 1974), the view of women with HG as rejecting the pregnancy dominates the literature until as recently as the 1990’s. An early retrospective case control study found an increase in “neuroses” in women with HG compared to a nonmatched control group (Bahna and Bjerkedal 1974). The preponderance of theories invoking hysterical personality characteristics and immature psychosexual development has led to controversy, with these theories being characterized as “woman-blaming” (Munch 2002a).

Association between HG and psychiatric illness

A number of psychiatric risk factors have been proposed including psychosocial stress, depression, anxiety, personality disorders and psychological conflict (Bahna and Bjerkedal 1974; el-Mallakh et al. 1990; Fairweather 1968; Hod et al. 1994; Iatrakis et al. 1988). Not surprisingly, women with nausea and vomiting during pregnancy (NVP) report an association between increased symptoms and feeling less generally healthy (Swallow et al. 2004). A retrospective case control study from a database in Nova Scotia, found an increase in psychiatric diagnoses in women admitted for HG (Fell et al. 2006). Unfortunately, the study didn’t provide details about the types of psychiatric diagnoses identified. Other studies contradict this finding and have not found an increase in psychiatric illness in women with HG during or after pregnancy (Majerus et al. 1960; Tsang et al. 1996). An early landmark study by Majerus et al. (1960) refutes the hypothesis that women with HG have more psychiatric illness. In this study, women with HG were compared to controls two years post-hospitalization with no increase in psychiatric illness found in the HG group (Majerus et al. 1960).

There is no prospective data supporting an association between depression and HG. In a retrospective cohort study of women who completed a telephone interview after answering an ad about NVP, women reported that severe nausea was associated with self-reported depression (52.4%), consideration of pregnancy termination (17.9%) and an adverse effect on the relationship with their partner (51.7%) (Mazzotta et al. 2000). In this study, psychosocial distress from severe NVP was independently associated with the choice to take antiemetics, highlighting the toll HG can take on a patient’s quality of life. Although HG may also be a risk factor for postpartum depression, other antenatal psychiatric conditions likely present an even greater risk (Josefsson et al. 2002).

Little data exists on the link between HG and anxiety, however one retrospective case control study found that women with a diagnosis of post-traumatic stress disorder (PTSD) were almost 4 times more likely to have been hospitalized for HG as a pregnancy complication (OR 3.9) (Seng et al. 2001). Due to study design, it was unknown whether the diagnosis of PTSD pre-dated the diagnosis of HG. In a retrospective case control study of women with obsessive compulsive disorder (OCD), retrospective reports of HG were significantly more common than in the control group (Vasconcelos et al. 2007).

An important study by Simpson et al. (2001) sheds some light on the psychiatric course of women hospitalized with HG (Simpson et al. 2001). Although limited by very small sample sizes, this prospective case control study found that while suffering from HG, women showed more somatization, anxiety, psychoticism and obsessive compulsive symptoms. Interestingly, during the postpartum period, there were no significant differences between groups. They argue that although during pregnancy woman score high enough on the Minnesota Multiphasic Personality Inventory (MMPI) to look like they have conversion disorder, once the HG resolves this pattern resolves.

While an association between HG and psychiatric illness seems likely, these data do not support a unidirectional link of psychological distress causing HG. It remains unclear whether psychiatric illness leads to symptom production, whether the stress of HG symptoms leads to psychiatric impairment, or whether these conditions are separate but interact.

Biological theories of HG

An excellent review of the biological basis of HG is presented by Verberg et al. (2005) (Verberg et al. 2005). Although the pathophysiology of HG is largely unknown, causal associations with abnormal levels of various hormones have been proposed. For example, human chorionic gonadotropin (HCG) has been invoked as a biologic cause since the incidence of HG is associated in most, but not all studies, with elevated HCG levels. Twin and molar pregnancies are associated with both higher HCG levels and increased rates of HG (Fell et al. 2006). It is hypothesized that some women may be more susceptible than others to an emetogenic stimulus like HCG or that specific isoforms of HCG may be implicated. Another theoretical association derives from the fact that transient thyrotoxicosis has been found in some women with HG (Goodwin et al. 1992). HCG stimulates the thyroid gland because it is structurally similar to thyroid stimulating hormone (TSH), and this is understood to be the cause of gestational transient thyrotoxicosis (Yoshimura and Hershman 1995). Unless, there is intrinsic thyroid disease,

suppressed thyroid stimulating hormone levels in women with HG should not be treated. Increased levels of estradiol have also been associated with nausea and vomiting during pregnancy (Depue et al. 1987). Nausea and vomiting is a common side effect of estradiol treatments. Cigarette smoking, which lowers both HCG and estradiol levels, is associated with decreased NVP (American College of Obstetrics and Gynecology 2004). It is likely that some women are more susceptible to nausea and vomiting from estradiol than others. Interestingly, relative increased estrogen concentrations are thought to underlie the observation that HG occurs more commonly in pregnancies of a female fetus (Schiff et al. 2004). Other proposed biologic causes include adrenocorticotropin hormone (ACTH), cortisol, growth hormone and prolactin.

Non-psychiatric risk factors include a history of HG in a previous pregnancy, multiple gestation, and low maternal age; as well as hyperthyroidism, gastrointestinal disorders and diabetes (Fell et al. 2006). Increased risk with nulliparity and increased body weight has also been reported (Broussard and Richter 1998). Genetic susceptibility may play a role as women with HG often have a positive family history (Fejzo et al. 2008). Because the biological cause of HG, aside from being a pregnancy-related illness, has not been delineated, psychological causes are often sought. We have found this to be especially true in women who are treatment resistant or become regressed in the context of medical illness.

Patient perspective

Several qualitative studies have explored patient's attitudes towards HG and their satisfaction with health care interventions. Women may feel out of control, detached from the pregnancy and focus solely on their physical symptoms (Meighan and Wood 2005). An important source of distress is their perception that they are expected to continue daily activities despite being ill (Munch 2002b).

Physician empathy is an important element in patient satisfaction. When patients are asked about their experience with HG, they report that their satisfaction with care is highly correlated with agreement between patient and doctor as to the cause of HG (Munch and Schmitz 2006). When women with HG regard their health care providers as taking their symptoms seriously, they report faster improvement in symptoms (Munch 2000). In fact, women who feel their health care provider is unsympathetic towards their HG symptoms, report more depression and anxiety (Poursharif et al. 2008). Most women report the etiology of their HG to be physiological and while they don't mind discussing stress, they dislike repeated questioning searching for a psychological cause (Munch 2002b).

Diagnosis

A full history and physical examination should be done to rule out all possible causes of severe nausea and vomiting in pregnancy. When vomiting occurs for the first time after 10 weeks of gestation, an alternative diagnosis should be sought. Physical symptoms such as abdominal pain, epigastric tenderness, fever, headache and goiter are usually not normal findings in HG and other causes should be considered. The appropriate laboratory and radiologic tests should be ordered to diagnose gastrointestinal disorders such as hepatitis, pancreatitis, gastrointestinal obstruction, and peptic ulcer disease. Endocrinologic disorders such as thyrotoxicosis and adrenocortical insufficiency should be considered, as should infections such as urinary tract infections. An ultrasound to evaluate for trophoblastic disease or multiple pregnancies should be performed.

There is one validated scale available to assess the severity of nausea and vomiting symptoms during pregnancy, the Pregnancy-Unique Quantification of Emesis and Nausea (PUQE) scale developed by Koren et al. (Koren et al. 2002; Lacasse et al. 2008). There are 2 versions that quantify the symptoms over 12 h and over the whole first trimester. They are both short, 3 question scales that ask the patient to quantify the frequency of their symptoms. They can be used to help patients and practitioners quantify the change in symptoms over time.

Treatment

Recently the American College of Obstetrics and Gynecology (ACOG) published a review of the data regarding the treatment of nausea and vomiting during pregnancy (American College of Obstetrics and Gynecology 2004). They report the best evidence for the use of pyridoxine (vitamin B6) (25 mg TID), or pyroxidine plus doxylamine (25–50 mg at night). A recent meta-analysis concluded there is no evidence of teratogenicity (Jewell and Young 2002).

Other options for milder nausea, include ginger (1–4 g/day) (Vutyavanich et al. 2001) and acupressure (Heazell et al. 2006). For moderate HG, metoclopramide, is commonly prescribed although there is no conclusive data confirming its efficacy in HG. Generally IV antiemetics are changed to oral once nausea and vomiting have improved and patients can tolerate oral liquids. H2 blockers are prescribed if peptic ulcer disease is diagnosed. For treatment resistant HG, high dose steroids are sometimes used if antiemetics are not controlling the nausea and vomiting in women with HG (Safari et al. 1998; Yost et al. 2003). The degree of the patient's dehydration and malnutrition also guides treatment. The presence of ketonuria will generally result in

admission to the hospital for IV rehydration. Thiamine supplementation may also be required in severe cases to decrease the risk of Wernicke's encephalopathy. When malnutrition is prolonged, nasogastric or parenteral nutrition may be required.

There are no studies evaluating whether psychopharmacologic intervention targeting psychiatric pathology improves outcomes in HG. Case reports of intravenous mirtazapine (not available in the U.S.) have been published (Guclu et al. 2005; Rohde 2003). The use of antipsychotics is common but both mirtazapine and antipsychotics are generally used as anti-emetics, not as primary psychiatric interventions. There are some case studies suggesting that psychological and behavioral interventions can be helpful, however, to our knowledge, no studies examining the best-studied psychological interventions, cognitive-behavioral therapy (CBT) or interpersonal therapy (IPT), have been published.

Discussion

In the discussion, we will highlight the challenges faced by the inpatient psychiatric consultant in the care of women with HG and provide specific, clinical recommendations based on our extensive experience with this special patient population.

The ACOG practice bulletin does not comment specifically on the role of a psychiatric consult but does state that there is little evidence to support a role for psychotherapy for the treatment of HG. There are no randomized prospective trials assessing the relationship between HG and psychiatric illness. Unless noted, the data presented above are all from cross-sectional and retrospective case control or cohort studies. The data available is sparse and there are many limitations. For instance, there is no single definition of HG used across studies. Most studies define HG based on the need for hospitalization or emergency room attention to treat HG symptoms but this is not standardized. Moreover, some of the literature uses unvalidated or rarely used psychometric scales, making their generalizability limited.

The bulk of the existing data does suggest that even if women with HG look ill during the pregnancy, psychiatric diagnoses are not over-represented longitudinally. That said, women suffering from HG may appear depressed. In the psychosomatic medicine literature, depression during an illness is often characterized as demoralization. Demoralization is considered a normal response to illness characterized by sadness, fear and irritability with behavior that can even be "passive, demanding or uncooperative" (Slavney 1999). While symptoms can overlap with depression, patients with demoralization will have significant

mood improvement when their medical circumstances improve. This concept seems particularly applicable to women with HG and should diagnostically be considered first and foremost. One way to conceptualize the difference between demoralization and depression in HG is to think of demoralization as an active, emotional struggle against being ill whereas depression can be better thought of as a more helpless and hopeless stance, when one is no longer in active struggle against the stress of being ill.

It has been argued that HG, like other illnesses in women, has been disproportionately linked to psychological causes (Munch 2002a). However, we were still surprised to find how much of the "modern" literature, particularly in psychiatric journals, also held this view which is based on little empirical data. The psychoanalytic view that unconscious conflict appears as physical symptoms is often employed in understanding unexplained physical symptoms and the literature on HG is dominated by this view. Anecdotally, we have found that patients are often reluctant to talk to us and that our attempts to intervene with patient's symptomatology are dismissed. This can lead to negative counter-transference both in the primary health care providers and the consultants. "Normal" behavior in a hospital setting consists of acting in a way that the health care providers approve of, anything else, will often end in a psychiatric consult. If this consult is rejected by the patient, instead of viewing this as normative (i.e. a medically ill patient does not want to be viewed as a psychiatric patient), terms such as borderline personality disorder will be used to define the patient's hostility. This should be acknowledged and dealt with as quickly as possible so as not to further traumatize the patient. Little work has been done addressing health providers attitudes towards HG and patients often react negatively when a psychiatric consult is requested (Soltani and Taylor 2003). Usually, consultation requests include asking whether a patient is depressed, anxious or has a personality disorder as well as whether the patient's nausea and vomiting are "real". When we are able to engage patients, we often find that they are indeed suffering but insist that the suffering is a result of the HG as opposed to the reverse.

Our review indicates that no single biological cause of HG has been identified. Women may be disappointed at not being able to enjoy being pregnant. When patients are ill during pregnancy, and a physiological cause cannot be found, it is often assumed that the patient is in psychological conflict about the pregnancy. This is, of course, to most patients a taboo topic, and we get little yield from approaching them from this viewpoint. In addition, most women are ambivalent about their pregnancy at some point regardless of whether it proceeds as expected or not. Allowing patients to ventilate their discomfort, as well as providing validation and support for their suffering, can

generally be done by the primary healthcare providers. When this communication breaks down, the psychiatric consultant can be helpful in re-establishing this important physician-patient connection. For example, we have found that presenting the data about the patient's perception of physician empathy and the relative rarity of HG as a psychiatric disorder helpful to primary caregivers. In addition, our genuine interest in these patients reflecting the scientific complexity of HG is absorbed by the staff caring for the patient. When necessary we help set therapeutic boundaries when a personality disorder is suspected but we generally remind staff that we are not in the business of trying to "catch" patients as sometimes occurs when the vomiting is not observed. This leads to suspiciousness by both staff and patients and is not a helpful intervention, as it can only lead to anger and shame in the suffering patient. Patients will often confide that they are thinking about termination and sometimes go on to terminate (Poursharif et al. 2007). The grief of a "negative" or unexpected pregnancy experience also needs to be explored. While we are not advocating for or against pregnancy termination, we can provide an understanding stance that normalizes this psychological, yet usually ego-dystonic, experience for the patient. Another way to state this is that when the pregnancy causes such physical distress, isn't it understandable to consider not wanting to be pregnant anymore? It is especially important in these patients to assess distress tolerance, the patient's past and present coping skills when faced with challenge.

In light of the available data, we recommend the following approach for the psychiatric consultant asked to perform an inpatient consultation on a patient with HG:

1. Clarify the consultant's question. This can provide invaluable information about the primary team's diagnostic impression and treatment approach.
2. Confirm that the patient has agreed to a psychiatric interview. If the patient declines, we recommend that the primary provider approach the patient again. This gives the primary provider a chance to directly address his or her concerns with the patient, improving the physician-patient connection.
3. Perform a standard psychiatric diagnostic evaluation; focus on evaluating for depression and assessing the patient's level of distress tolerance.
4. Review that an appropriate diagnostic work-up has been done and that anti-emetics have been prescribed.
5. Consider the conceptualization of demoralization if the patient feels sad, anxious or irritable as a result of the nausea and vomiting. This leads the consultant to focus on improving coping skills as well as reassuring the patient she will feel better emotionally once the physical symptoms improve.

6. Allow the patient to ventilate feelings of physical and emotional distress.
7. Validate the patient's distress, frustration and disappointment.
8. Do not make attempts to connect stress and physical symptoms in the initial contact.
9. Ask how the patient feels about her connection with her primary providers; any interventions to increase this connection will improve the patient's experience of the pregnancy.
10. Strategize with the patient, significant others and multi-disciplinary team (i.e. social worker, home health nursing agency, etc.) about how she can be relieved of daily activities until the nausea and vomiting resolve.
11. Provide psychoeducation to the patient's psychosocial support network about the biological nature of HG and the patient's stress response.
12. Refer for outpatient psychiatric follow-up if warranted as well as provide information about local support groups and internet resources.
13. Consider psychotropics only if the patient is severely depressed or anxious.

Conclusion

Does HG cause stress, does stress cause HG, or are they simply co-morbid conditions in some patients? Patients are too often reduced to the dualistic perspective of body versus mind so that physicians can succinctly diagnose and treat the patient's illness. For healthcare providers who bridge the gap between the physical and psychological, an integrated approach to patients doesn't ask which is involved, body *or* mind, but rather how they interact to reduce an individual patient's set of symptoms. It is in deciphering this interaction that an integrated plan can be made to reduce an individual patient's suffering.

Treating women with HG requires the clinician to understand that patients' quality of life is severely disrupted at a time when they are supposed to be experiencing joy. Feelings of grief and loss associated with the disappointment of being ill during pregnancy need to be validated. Patients with HG can appear depressed or regressed just as any patient experiencing disabling physical symptoms can. In these instances, normalizing the patient's sense of demoralization should be considered.

Future research should further clarify the connection between psychiatric illness and HG. More evidence is needed before it can be stated with certainty that psychiatric illness is a risk factor for HG and vice versa.

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