Successful Treatment of Ptyalism Gravidarum With Concomitant Hyperemesis Using Hypnosis

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Successful Treatment of Ptyalism Gravidarum With Concomitant Hyperemesis Using Hypnosis

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Ptyalism gravidarum, or sialorrhea, is the excessive secretion of saliva during pregnancy. Treatment of ptyalism gravidarum is often challenging due to its unknown etiologies. This article discusses a case of ptyalism gravidarum with concomitant hyperemesis in which the condition was successfully treated with hypnosis. A 28-year-old woman presented with ptyalism 2 months into her pregnancy and hyperemesis 3 months into pregnancy with associated vomiting that occurred following every meal. Hypnosis was administered at week 16 of pregnancy to eliminate ptyalism and hyperemesis, to prepare for childbirth, and to increase overall psychological well-being. Ptyalism resolved by week 36, concurrent with the final hypnosis session.

Keywords: hypnosis, pregnancy, ptyalism

The function of the salivary gland is to excrete saliva in aiding digestion, assist in mastication of food, facilitate swallowing, and increase perception of taste (Pedersen, Bardow, Jensen, & Nauntofte, 2002). However, hyposecretion, such as xerostomia (Ferreira & Hoffman, 2013), and hypersecretion, such as ptyalism or sialorrhea (Freeman et al., 1994), impede the natural functions of saliva.

The nature of ptyalism gravidarum, which refers to excessive secretion of saliva during pregnancy (Suzuki, Igarashi, Yamashita, & Satomi, 2009), is not clearly understood. Evidence suggests that the inability to swallow excessive saliva is indicative of anxiety rather than malfunction of the salivary gland. This anxiety may stem from the belief that swallowing may result in nausea, which could cause vomiting (Freeman et al., 1994; Suzuki et al., 2009). Ptyalism gravidarum often leads to difficulty in sleeping and in the execution of day-to-day activities, such as work and socialization, as there is a constant need to remove the excessive saliva (Erick, 1998). The incidence of ptyalism during pregnancy is often accompanied by hyperemesis gravidarum (Freeman et al., 1994; Suzuki et al., 2009) or severe nausea and vomiting.
Previous studies have indicated that there is no specific successful treatment for ptyalism gravidarum. In fact, treatment is often challenging due to its unidentified etiologies (Suzuki et al., 2009). The use of various coping mechanisms, such as chewing gum, is often only a temporary fix. Drugs, such as phenothiazine and belladonna, used to treat the production of excessive saliva have been successfully used to treat ptyalism gravidarum, although side-effects such as xerostomia (dry mouth) and constipation have been noted (Freeman et al., 1994).

The use of complementary medicine (e.g., hypnosis) has been shown to ease various pregnancy symptoms, such as nausea and vomiting (Adams, 2012; Simon & Schwartz, 1999). The current published case reports on ptyalism investigated the effectiveness of medical intervention (Freeman et al., 1994), but none examined the use of hypnosis as a mode of treatment. Hypnosis for the treatment of ptyalism gravidarum with concomitant hyperemesis could be helpful, as it has been shown to be successful in the treatment of hyperemesis gravidarum (Simon & Schwartz, 1999; Torem, 1994). Thus, relief from hyperemesis through hypnosis may also aid in the relief of anxiety underlying the ptyalism.

This case report discusses a patient who had experienced ptyalism gravidarum with concomitant hyperemesis in which the condition was successfully treated with hypnosis.

**Case Presentation**

A 28-year-old woman began experiencing ptyalism as her pregnancy entered the 2nd month. Subsequently, the incidence of ptyalism had progressively worsened as her pregnancy advanced. The patient began experiencing hyperemesis 1 month following the onset of ptyalism largely due to nausea and the inability to swallow saliva. The patient’s complaint corresponded with evidence from the literature indicating that excessive saliva due to ptyalism caused nausea and vomiting (Freeman et al., 1994; Suzuki et al., 2009).

The patient emphasized that the excessive saliva caused embarrassment, as she had to frequently dispose of it at work and in public places. She was working in a biochemistry lab in a hospital and her condition impaired her ability to successfully perform her work. The patient’s sleep pattern was disturbed as she needed to awaken to remove the excessive saliva.

The patient’s diet was poor, consisting mostly of dried sour fruits because consumption of other types of food resulted in vomiting. She was steadily losing weight from week 8 to week 16 of pregnancy, with a total weight loss of 11 pounds due to vomiting and lack of appetite. The patient had made this remark prior to the first hypnosis session at week 16, “Why would I waste my energy on eating food as I would vomit right after?”

The patient had previously experienced this condition during her first pregnancy. Similarly, ptyalism began as her pregnancy entered its 2nd month, later accompanied by hyperemesis. Subsequently, ptyalism persisted into the third stage of labor. This led to difficulty in having a satisfying birth experience, as the patient felt the need to constantly...
remove excessive saliva up to the third stage of labor. Ptyalism spontaneously remitted immediately following birth. The patient had expressed concerned that the recurrence of ptyalism would cause the same difficulties during labor as in her first pregnancy.

Prior to the hypnosis session, medical investigations were conducted to identify the cause of the patient’s ptyalism. These investigations included full blood count and urinalysis to rule out infections. Infections in the mouth and throat, for example, could cause excessive salivation (Mayo Clinic, 2014). Results showed that the patient did not have any infections. Ultrasound examination was performed to rule out molar pregnancy. Molar pregnancy results from the abnormal growth of placenta with some fetal development (partial molar) or without the fetus (complete molar) but mimics the symptoms of an actual pregnancy (MedlinePlus, 2014), and in some patients, this condition has been shown to elevate thyroid hormones (Azezli, Bayraktaroglu, Topuz, & Kalayoglu-Besisik, 2007; Moskovitz & Bond, 2010). The elevation of thyroid hormones during pregnancy may cause hyperemesis gravidarum, which may in turn, cause ptyalism. Ultrasound results indicated that the patient had a normal pregnancy and normal thyroid hormones levels (Ogunyemi & Isaacs, 2014). The experience of ptyalism gravidarum without any known physiological etiologies is consistent with other studies in this area (Freeman et al., 1994; Suzuki et al., 2009).

Hypnosis intervention was given at week 16 of pregnancy to eliminate ptyalism and hyperemesis, to prepare for childbirth, and to increase overall psychological well-being. In the interval between the hypnosis and the onset of labor, the patient did not receive any conventional treatment for ptyalism.

**Hypnosis Intervention**

Hypnosis was conducted by the first author of this paper, who is a trained hypnotist. The hypnosis session was conducted at the antenatal clinic of a teaching hospital in Kuala Lumpur, Malaysia.

Hypnosis was conducted four times at weeks 16, 20, 28, and 36 of pregnancy. There were long gaps between the sessions as the patient could only participate in the hypnosis session during her antenatal check-up at the teaching hospital.

During the first induction session at week 16 of pregnancy, the patient was asked to bring her thumb and index finger together from either the left or the right hand. Following this, the patient was asked to close her eyes and was guided through a progressive muscle relaxation, beginning from the feet and moving up to her legs, abdomen, chest, back, throat, face, and head and then moving down to her shoulder, arms, hands, and finger tips. During the progressive muscle relaxation, suggestions were given for the relaxation of throat muscles. The therapist observed that the patient’s breathing slowed and her body began to relax.

Following the progressive muscle relaxation, suggestions were given to the patient for the discomfort experienced during pregnancy to move down her arms down to her...
Every time you breathe out, the discomfort you experienced during this pregnancy will move down your arm to your thumb and index finger and leave your body. That discomfort is replaced by the feeling of comfort . . . feeling of pleasure . . . feeling of satisfaction . . . allowing you to enjoy your pregnancy in a state of deep and complete relaxation.

The use of the index finger and thumb as described above was also emphasized during self-hypnosis suggestions. Following hypnosis, the patient was provided with additional ego strengthening, including suggestions about how the experience of pregnancy can be very positive, including maternal bonding with the unborn baby and anticipation of a fulfilling birth experience. Upon re-alerting from hypnosis, the patient was advised to practice self-hypnosis. The patient was also instructed to bring her thumb and index finger together whenever she felt discomfort due to her pregnancy.

The therapist observed that prior to the start of the hypnosis session, the patient was either spitting excessive saliva into a bag she brought with her or removing the excess with tissues. However, during the hypnosis session, the patient was swallowing her saliva naturally.

Follow-Up

The therapist met with the patient after 4 weeks. The patient reported positive changes following her first session. Hyperemesis completely ceased, although the ptyalism still remained. The patient gained a total of 10 pounds, as appetite improved following the cessation in vomiting.

The patient was still apprehensive that swallowing saliva would cause her to vomit, as she was continuing to experience nausea whenever she attempted to swallow the saliva. The suggestions for the relaxation of the throat muscles in aiding the swallowing of saliva without feeling nauseous were strengthened during the second session.

Following the third session at week 28, the incidence of ptyalism decreased, as the patient was able to swallow saliva occasionally and had ceased waking up at night to remove the excessive saliva. Her sleep had improved tremendously.

During the fourth session meeting, the patient reported that the incidence of ptyalism had decreased substantially. Saliva could be swallowed with much more ease. Ptyalism was completely eliminated a few hours following this last session (as confirmed by patient).

Measures

The patient’s negative emotional states (stress, anxiety, and depression) were measured at baseline (prior to the start of the first hypnosis session) and at weeks 20, 28, and 36 of
the follow-up hypnosis sessions. Stress, anxiety, and depression were measured according to the Depression, Anxiety and Stress Scale–21 (DASS-21) (Lovibond & Lovibond, 1995). Each dimension of depression, anxiety, and stress consists of seven items. These items are measured on a 4-point Likert scale ranging of “did not apply to me at all” (score of 0), “applied to me to some degree or some of the time” (score of 1), “applied to me to a considerable degree” (score of 2), and “applied to me very much or most of the time” (score of 3). The intensity of stress, anxiety, and depression ranges from normal, mild, moderate, severe, to extremely severe. The higher the score, the greater the intensity of stress, anxiety, and depression (Lovibond & Lovibond, 1995; Musa, Fadzil, & Mohd Zain, 2007; Musa, Ramli, Abdullah, & Sarkarsi, 2011). The patient was given the Malay version of the DASS-21, which was validated for the Malaysian population (Musa et al., 2007). The Malay version of the DASS-21 was used as a measure of the experience of depression, anxiety, and stress on hyperemesis gravidarum in Malaysia (Tan et al., 2014).

At baseline, the patient’s stress and anxiety scores were normal as indicated by the DASS-21. However, her depression scores were rated at the moderate level. Stress and anxiety scores remained within normal parameters during the second hypnosis session at week 20 (follow-up 1) of pregnancy. Depression scores decreased from moderate to normal. Although the patient’s stress scores had slightly increased during the third and fourth hypnosis sessions (follow-ups 2 and 3, respectively), they remained within the normal parameters. Anxiety and depression scores remained at the normal level at follow-ups 2 and 3 (Figure 1).

![Graph showing mean scores for stress and depression from baseline to follow-up 3.](image)

**FIGURE 1** Mean scores for stress and depression from baseline to follow-up 3.

*Note.* Anxiety is excluded, as the mean scores for anxiety in all four sessions were rated as 0.
Two items on the DASS-21 that measure depression were of particular concern as the patient rated them as “applied to me to a considerable degree.” These items were “I just couldn’t seem to get going” and “I feel that I had nothing to look forward to.” As discussed earlier, the ptyalism caused difficulty in digesting food, at work, and in social situations. Furthermore, the patient was not looking forward to her labor due to fear of experiencing similar difficulties to those of her first pregnancy. By the second and third hypnosis sessions, the aforementioned items were rated as “applied to me to some degree or some of the time,” and by the final hypnosis session, she rated these items as “did not apply to me at all,” which coincides with the reduction in her depression scores (Figure 1).

The patient gave birth through a spontaneous vaginal delivery, without the incidence of ptyalism, to a healthy female infant weighing 3200 gm with an Apgar score of 9/10.

Discussion

This case report highlights the benefits of hypnosis in the treatment of physical symptoms during pregnancy. Additionally, this research illustrates the possibility of lowering the incidence of stress, anxiety, and depression by eliminating physical symptoms. Past studies have indicated associations between the experience of physical symptoms and stress, anxiety, and depression; for instance, women with hyperemesis gravidarum reported higher levels of depression, stress, and anxiety, but vomiting cessation reduced those scores, particularly for stress and depression (McCarthy et al., 2011).

Without proper care and techniques, stress, anxiety, and depression may lead to further adverse effects for women, their fetuses, and their infants later in life (Breedlove, 2011). These adverse effects include premature birth and low birth weight. However, stress, anxiety, and depression tended to be diagnosed only after those adverse effects had occurred (Breedlove, 2011).

Although past studies have shown the association between physical symptoms and psychological conditions (e.g., anxiety) studies in the area of hypnosis in obstetrics were more focused on its efficacy during labor (Cyna, Andrew, & McAuliffe, 2006; Mehl-Madrona, 2004). Early intervention in the elimination of physical symptoms is necessary to increase the well-being of pregnant women (Breedlove, 2011). A study by Madrid, Giovannoli, and Wolfe (2011), for example, showed that successfully treating nausea early during pregnancy helps women to alleviate fears and grief related to past traumas.

Although ptyalism gravidarum is rare, only affecting a small portion of pregnant women (about 0.3% in a study involving pregnant Japanese women) (Suzuki & Fuse, 2013), the effect is detrimental. Thus far, there has been no other study on hypnosis for this condition using a larger sample, probably due to difficulties in finding an appropriate pool of participants who meet the criteria for the diagnosis.

Since this is the first case report regarding the efficacy of hypnosis in the treatment of ptyalism gravidarum, more research is needed to determine whether hypnosis does
indeed assist in resolving its symptoms. Future research on hypnosis in obstetrics should focus on alleviating depression in pregnant women, as studies have shown the effectiveness of using hypnosis, especially cognitive hypnotherapy, in the treatment of depression (Alladin & Alibhai, 2007). Similarly, in this case report, the reduction and elimination of physical symptoms coincide with the reduction in the experience of depression. Although hypnosis may have helped decrease the patient’s depression score, her stress score did increase. It is possible that initially ptyalism may have contributed to the increase in the depression score and the reduction in salivation may have led to its decrease at follow-up. The experience of stress may be due to other factors, such as a hectic work schedule, being pregnant, and taking care of another child at home rather than due to the excessive salivation. Future hypnosis sessions should consider addressing various aspects of a patient’s difficulties to cultivate more positive psychological well-being.

This case report illustrates how hypnosis may be of benefit during pregnancy. Based on this evidence, perhaps other physical symptoms could be relieved as well such as nausea, vomiting, back pain, leg cramps, heart burn, and leg swelling (which could be a symptom of preeclampsia, a condition that may cause fatality). Once the physical symptoms are alleviated early in pregnancy, women will be able to enjoy their pregnancy with a more positive outlook and may look forward to their labor and postpartum periods.

Although this case is based on a single patient, there is increased credibility given that the patient did experience similar conditions during her first pregnancy and that the symptoms of ptyalism spontaneously resolved following delivery of her baby. However, for her second pregnancy, the symptoms of ptyalism decreased following the third hypnosis session and were resolved at the conclusion of the fourth session. As noted earlier, during the first hypnosis session, the patient had the ability to swallow normally, indicating temporary relief of her condition, which was aided by suggestions during hypnosis for the relaxation of the throat muscles.

This case report is not without its limitations. First, hypnosis was conducted with a long gap between sessions. Although the patient’s complication was severe, the patient could only attend the session during her regular antenatal check-up at the hospital. The prolonged time required for the patient’s recovery from ptyalism gravidarum may be due to the effect of time, as the completion of the hypnosis intervention took 20 weeks, or 5 months, in total. The patient may have employed other strategies to recover from her condition. Second, this case is based solely on the report of one patient. Studies with more patients will lead to a stronger conclusion on the efficacy of using hypnosis in the treatment of ptyalism gravidarum. Using a single case research design as the study methodology would have led to a more reliable conclusion that hypnosis did indeed assist in eliminating the patient’s symptoms, as the goal of a single case research design is to identify the changes in a dependent variable (e.g., stress, anxiety, and depression) over time (Smith, 2012). Third, although at the end of the hypnosis session the therapist and patient had a discussion regarding the possibility of the patient associating nausea
and subsequent vomiting with ptyalism, a more structured approach, including providing a clear explanation of how hypnosis could have aided in resolving her symptoms, may have contributed to a speedier recovery.

Conclusions

The link between physical symptoms and pregnant women’s emotional states should be taken into consideration. Suitable interventions, such as hypnosis, may reduce physical symptoms and increase women’s emotional well-being during pregnancy.

Ethical Statement

This study was approved by the University of Malaya Medical Ethics Committee, Kuala Lumpur, Malaysia (Medical Ethics Committee Reference 901.5). The patient in this case report provided consent to be included in this study, as required by the Medical Ethics Committee.

This case report is based on an ongoing Ph.D. research project of the first author, who is registered at the University of Malaya, Kuala Lumpur, Malaysia. The research is focused on the efficacy of hypnosis intervention during pregnancy, labor, and postpartum period.

References


