NAUSEA AND VOMITING DURING PREGNANCY AND SIKANJBEEN LEMOONI – A REVIEW

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ABSTRACT

Nausea and vomiting were first described as symptoms of early pregnancy in Egypt 2000 BC, hyperemesis was probably first described during the 2nd century AD. Hippocrates (460-377 BC) as well as Aristotle (384-322 BC) observed that the degree of nausea and vomiting could be related to fetal gender. Hyperemesis gravidarum is the most severe form of nausea and vomiting of pregnancy. It occurs in up to 3% of pregnancies. This condition may be diagnosed when a women has lost 5% of her pregnancy weight and has other problems related to dehydration. Hyperemesis gravidarum is multifactorial condition because there are numerous theories regarding to etiology of hyperemesis gravidarum but none of these conclusive it is most likely not due to one factor hence treatment of this condition should be multimodal ranging from dietary and lifestyle changes to medical therapy and counseling. Various Unani drugs mentioned in the literature for this, which are very useful for this problem. Sikanjbeen lemooni is a poly herbal Unani formulation used in Unani system of medicine since the time Arab physicians.

Key words: Nausea, Vomiting, Unani Concept , Pregnancy, Sikanjbeen lemooni.

INTRODUCTION

These are common complaints during the first half of pregnancy. Erroneously called morning sickness, symptoms usually commence between the first and second missed menstrual period and continue until about 14-16 weeks.[1,9]

INCIDENCE

Lacroix and co-worker (2000) found that nausea and vomiting were reported by three fourths of pregnant women and lasted an average of 35 days. Hail had relief by 14 weeks, and 90% by 22 weeks. In 80% of the women, nausea lasted all day.[1]

AETIOLOGY

The causes of vomiting in pregnancy can be classified as follows:

A. EARLY PREGNANCY

Related to pregnancy (vomiting of pregnancy)

- Simple vomiting (morning sickness, emesis gravidarum)
- Hyperemesis gravidarum (pernicious vomiting)

Associated with pregnancy

Medical	Surgical	Gynecological
Intestinal infestation	Appendicitis	Twisted ovarian tumor
Urinary tract infection	Peptic ulcer	Red degeneration of fibroid
Hepatitis	Intestinal obstruction	
Ketoacidosis of diabetes	Cholecystitis	
Pyelonephritis	Pancreatitis	

B. LATE PREGNANCY

Related to pregnancy

- Continuation or reappearance of simple vomiting of pregnancy
- Acute fulminating preeclampsia

Associated with pregnancy

- Medical, surgical, gynaecological causes as above.
- Hiatus hernia[2,4]

SIMPLE VOMITING

The patient complains of nausea and occasionally sickness on rising in the morning. Slight vomiting is so common in early pregnancy (about 50%) that it is considered as a symptom of pregnancy. It may, however, occur at other times of the day. The vomitus is small and clear or bile stained. It does not produce any impairment of the health or restrict the normal activities of the women. The feature disappears with or without treatment by 12-14th week of pregnancy.[4]

HYPEREMESIS GRAVIDARUM

Nausea and vomiting of moderate intensity are especially common until about 16 weeks. In some women it is severe and unresponsive to simple dietary modification and antiemetics. Thus, hyperemesis gravidarum is defined variably as vomiting sufficiently severe to produce weight loss, dehydration, acidosis from starvation, alkalosis from loss of hydrochloric acid in vomitus and hypokalemia.(1)

INCIDENCE

There has been marked fall in the incidence during the last 30 years. It is now a rarity in hospital practice (less than 1 in 1,000 pregnancies). The reasons are –

a. Better application of family planning knowledge which reduces the number of unplanned pregnancies
b. Early visit to the antenatal clinics
c. Potent antihistaminic and antiemetic drugs.[dutta, dAWN]

- Schiff and Colleagues (2004) reported that women with severe disease have a 1.5 fold increased chance of having a female fetus, thus lending support to the estrogen hypothesis.(1)

AETIOLOGY

The aetiology is obscure but the following are the known facts:

a. It is mostly limited to the first trimester;
b. It is more common in first pregnancy, with a tendency to recur again in subsequent pregnancies (15)%;
c. Younger age;
d. Low body mass;
e. History of motion sickness or migraine;
f. It has got a familial history – mother and sisters also suffer from the same manifestation;
g. It is more prevalent in hydatidiform mole and multiple pregnancy and
h. It is more common in unplanned pregnancies but much less amongst illegitimate ones.

Women with hyperemesis gravidarum, often suffer from transient form of hyperthyroidism (clinical or subclinical).(1)

THEORIES:

1. **HORMONAL:**

a. Excess of chorionic gonadotropin or higher biological activity of hCG is associated. This is proved by the frequency of vomiting at the hCG titer is very much raised;
b. High Serum level of estrogen and
c. Progesterone excess leading to relaxation of cardiac sphincter and simultaneous retention of gastric fluids due to impaired gastric motility. Other hormones involved are: thyroxine, prolactin, leptin and adrenocortical hormones.

2. **PSYCHOGENIC**: It probably aggravates the nausea once it begins. But neurogenic element sometimes plays a role, as evidenced by its subsidence after shifting the patient from the home surroundings. Conversion disorder, somatization, excess perception of sensations by the mother are the other theories.
3. **DIETETIC DEFICIENCY** : Probably due to low carbohydrate reserve, as it happens after a night without food. Deficiency of vitamin B_6 , vitamin B_1 and proteins may be the effects rather than the cause.
4. Allergic or immunological basis
5. Decreased gastric motility is found to cause nausea.

Whatever may be the cause of initiation of vomiting, it is probably aggravated by the neurogenic element. Unless it is not quickly rectified, features of dehydration and carbohydrate starvation supervene and a vicious cycle of vomiting appears – vomiting → carbohydrate starvation → ketoacidosis → vomiting. [4]

PATHOLOGICAL AND BIOCHEMICAL CHANGES:

There are no specific morbid anatomical findings. The changes in the various organs as described by Sheehan are the generalized manifestations of starvation and severe malnutrition.[practical obstetrics problem]

LIVER: Liver enzymes are elevated. There is centrilobular fatty infiltration without necrosis.

KIDNEY: Usually normal with occasionally findings of fatty change in the cells of first convoluted tubule, which may be related to acidosis.

HEART: A small heart is a constant finding. There may be subendocrinal hemorrhage.

BRAIN: Small hemorrhages in the hypothalamic region giving the manifestation of Wernicke's encephalopathy. The lesion may be related to vitamin B_1 deficiency.

METABOLIC, **BIOCHEMICAL AND CIRCULATORY CHANGES**: The changes are due to the combined effect of dehydration and starvation consequent upon vomiting.

METABOLIC : Inadequate intake of food results in glycogen depletion. For the energy supply, the fat reserve is broken down. Due to low carbohydrate, there is incomplete oxidation of fat and accumulation of ketone bodies in the blood. The acetone is ultimately excreted through the kidneys and in the breath. There is also increase in endogenous tissue protein metabolism resulting in excessive excretion of nonprotein nitrogen in the urine. Water and electrolyte metabolism are seriously affected leading to biochemical and circulatory changes.

BIOCHEMICAL: Patients develop acidosis (due to starvation) and alkalosis from loss of hydrochloric acid and hypokalemia. Loss of water and salts in the vomitus results in fall in plasma sodium, potassium and chlorides. The urinary chloride may be well below the normal 5 g/ L or may even be absent. Hepatic dysfunction results in ketosis with rise in blood urea and uric acid. Patient suffers from hypoglycemia, hypoproteinemia and hypovitaminosis.

CIRCULATORY: There is hemoconcentration leading to rise in hemoglobin percentage, RBS count and hematocrit values. There is slight increase in the white cell count with increase in eosinophils. There is concomitant reduction of extracellular fluid.(4)

CLINICAL COURSE

From the management and prognostic point of view, the causes are grouped into:

- **EARLY** (mild): Vomiting occurs throughout the day. Normal day-to-day activities are curtailed. There is no evidence of dehydration.
- **LATE**(moderate to severe): Evidences of dehydration and starvation are present.(2)

SYMPTOMS OF HYPEREMESIS GRAVIDARUM:

1. Excess vomiting and retching day and night, vomitus is initially watery, then bilious, coffee ground.
2. Nothing could be taken by mouth
3. Loss of weight
4. Oliguria
5. Seldom, mental symptoms – restlessness, sleeplessness, apathy, coma (wernicke's type), confusion
6. Eye symptoms – diplopia, dimness or even blindness.

SIGNS:

1. Patient is emaciated and dehydrated (loss of wt., shrunken eyes, dry tongue). Pulse rate tachycardia.
2. B.P. falls below 100 mg Hg systolic
3. Teperature rises above 100.4◦F

Jaundice seldom appears; neurological signs, palsies, nystagmus. (2)

INVESTIGATIONS

- **URINALYSIS**: Volume-small, dark color, high specific gravity with acid reaction, presence of acetone, occasional presence of protein and ralely bile pigments and diminished or even absence of chloride.
- **BIOCHEMICAL AND CIRCULATORY CHANGES**: Routine and periodic estimation of the serum electrolytes (sodium, potassium and chloride) is helpful in the management of the case.
- SERUM TSH,T3 AND FREE T4: Women may suffer from transient phase of thyroid dysfunction (clinical or subclinical).
- **OPHTHALMOSCOPIES EXAMINATION**: Is required if the patient is seriously ill. Retinal hemorrhage and detachment of the retina are the most unfavorable signs.
- **ECG**: When there is abnormal serum potassium.(2,4)

DIAGNOSIS: The pregnancy is to be confirmed first. Thereafter, all the associated causes of vomiting are to be excluded. Ultrasonography is useful not only to confirm the pregnancy but also to exclude other, obstetric (hydatidiform mole, multiple pregnancy), gynaecological, surgical or medical causes of vomiting.

DIFFERENTIAL DIAGNOSIS: When vomiting is persistent in spite of usual treatment other causes of severe vomiting (medical or surgical) should be considered.

COMPLICATIONS:

- **MATERNAL**: The majority of the clinical manifestation are due to the effects of dehydration and starvation with resultant ketoacidosis. Leaving aside those symptomatology, the following complications may occur which are fortunately rare nowadays.

1. Neurological complications –

a. Wernickke's encephalopathy,beriberi due to thiamine deficiency;
b. Pontine myelinolysis;
c. Peripheral neuritis
d. Korsakoff's psychosis

2. Stress ulcer in stomach
3. Esophageal tear (Mallory- Weiss syndrome);
4. Jaundice, hepatic failure
5. Convulsions and coma;
6. Hypoprothrombinemia due to vitamin K deficiency
7. Renal failure

- **FETAL**: Fetus usually remains unaffected once the problem is resolved. Fetal risks may be due to low birth weight.[2,4]

PREVENTION: The only prevention is to impart effective management to correct simple vomiting of pregnancy.[4]

UNANI CONCEPT

- According to Abu Bakr Muhammad Bin Zakaria Al-razi(865-925 A.D) in his authentic book "Kitab Al-Hawi" that female fetus is more responsible for nausea and vomiting then male because of male fetus having hotness(harart) and female having coldness (barudat).
- Nausea and vomiting usually occur in first trimester, and disappear after 4th month. But in some female it occur throughout the pregnancy.[12]

AETIOLOGY

- Excessive fluid accumulate in the stomach[13]
- Generalized weakness[15]

SIKANJABEEN LEMOONI

COMPOSITION OF SIKANJABEEN LEMOONI[19]

S.NO	NAME OF DRUGS	SCIENTIFIC NAME	DOSE
1.	Sirka neshker	Acetum vinegar	150ml
2.	Arq gulab	Rosa domiscus	150ml
3.	Aab-e-lemoon kaghzi	Citrus limon	150ml
4.	Qand safaid	sugar	1kg

ACTIONS OF SIKANJBEEN LEMOONI:

- Liver tonic
- Gastric and intestine tonic

USES:

- Nausea and vomiting
- Indigestion
- Appetizer
- Cholera

DOSE:

25-50ml twice a day in empty stomach[19]

RECENT RESEARCH

ANTHOR/YEAR	INFANT GENDER RELATION	MIZAJ	GOI(In weeks)	RESULT
Dr. Arshi Anjum et al/2018	More common due to female fetus (72.3%) than male fetus (27.7%)	Maximum number of patients were balghami (60.0%) followed by	The nausea and vomiting occur at 5-8 weeks 33.3% and 8-10 weeks (66.7%)	P value <0.001

		damvi (40.0%)		

CONCLUSION:

Three of every 10 pregnant women have nausea that is bad enough to interfere with their daily lives. Nausea and vomiting can have adverse effects on the mother health and also on fetus. Sikanjbeen lemooni is a poly herbal Unani formulation used in Unani system of medicine since the time Arab physicians. It possessing properties viz antiemetic, antianemic, appetizer, digestive, exhilarant, ant oxidant property. Long term follow- up of the patients until delivery showed no adverse effect on the newborns.

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