

*General Practice Series*

THE MANAGEMENT OF THE TOXAEMIAS OF EARLY PREGNANCY

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The toxaemias of pregnancy, early and late, comprise a motley group of diseases of which the causes are unknown, and for which, consequently, no specific treatment exists. The term toxaemia in this instance is merely an appellation entirely devoid of its usual etymological significance in so far as the causation of disease is concerned. So far all conditions of toxaemia or blood-poisoning have been shown to be the result of various disease processes and *not the cause*. However, while the aetiology remains obscure, the term continues to be used and in the so-called 'toxaemias of early pregnancy' we include the two conditions, hyperemesis gravidarum (excessive or pernicious vomiting of pregnancy), and ptyalism (excessive salivation).

HYPEREMESIS GRAVIDARUM

This disorder presents many strange and unexplained features. For a long time there have been two traditional theories in regard to its aetiology, viz. the neurotic and the toxaemic. While we have all seen vomiting of pregnancy in the obviously nervous and highly-strung woman, we probably meet this condition as often in the patient who is perfectly well-balanced, who has no hidden fears, bears no other stigmata of neurosis, and who eagerly awaits her baby. Moreover, the patently nervous and worried woman often suffers from no sickness at all. But, of course, we have all seen the cessation of vomiting in cases of hyperemesis on the employment of simple psychological techniques or on the mere transfer of the patient from her home to an institution—without any probing of her fears or motives and without any other special treatment.

The toxaemic theory, as such, consists of pure conjecture and, needless to say, no toxin has ever been demonstrated. Why should one woman be poisoned by her pregnancy and not another? Of course, everybody is agreed that in the late stages of the disease a toxaemia does develop, but then it does so as a result of prolonged and severe vomiting, producing a disturbance in the metabolism, and liver damage. However, before discarding the toxaemic theory altogether, we have to admit that it possibly gains a certain degree of support from the association of hyperemesis with the two rare conditions of hydatidiform mole and uniovular twins with severe hydramnios, in both of which excessive vomiting is sometimes the outstanding symptom. Is the cause the excessive production of gonadotrophic hormone? If so, why then only in uniovular and not in binovular twins?

A further interesting facet of the study of hyperemesis gravidarum is the undoubted decline in recent years in the incidence of this disease together with a definite decrease in the severity of those cases which we do see. My impression is that this diminished incidence is more noticeable among those living under favourable economic conditions. In the United Kingdom, where the average standard of living is higher than before World War II, this disease has become very uncommon and it is becoming increasingly rare to see a case in the hospital wards. If there is any validity in the neurosis theory, the very reverse would surely have been the case, since the general tempo and strain of living is so much greater now than before the war. Indeed, I believe that this declining incidence was noticeable even during the war with all its risks and uncertainties to the civilian population. However, in spite of this favourable turn of events as far as pernicious vomiting is concerned, there certainly has been no comparable abatement in the incidence of simple nausea and vomiting of pregnancy. Why? Is it possible that these conditions do not belong to one and the same disease process? Approximately half of all pregnant women still suffer from some degree of nausea and vomiting and the control of this condition has advanced only very slightly in spite of the numerous drugs for which enthusiastic claims have been made. Moreover, the latest drugs which seem to be fairly effective in the control of vomiting in conditions occurring apart from pregnancy, seem to lose their efficacy when employed for nausea and vomiting of pregnancy.

*Diagnosis*

How simple it is when confronted with a pregnant woman complaining of excessive vomiting, to label the case one of hyperemesis gravidarum. And if we happen to be adherents of the neurosis theory, how easy it is to be satisfied with the diagnosis and forget that coincidental disease of the gastro-intestinal tract, uterus and its appendages, urinary tract, and even chemical poisoning, may be responsible for the vomiting.

The following are examples of diseases which on occasion have been missed in pregnancy and not been diagnosed and should therefore be kept in mind:

*Gastro-intestinal tract:* Gastric and duodenal ulcer, carcinoma of the stomach, appendicitis, intestinal obstruction, strangulated hernia, and infectious hepatitis.

*Central nervous system:* Brain tumour, meningitis, and tabetic crises.



*Renal tract:* Pyelitis, chronic nephritis and uraemia, and stone.

*Uterus and appendages:* Degeneration of a fibromyoma, torsion of an ovarian cyst.

*Chemical poisons:* Lead and arsenic.

In considering the differential diagnosis the fact that hyperemesis is not accompanied by abdominal pain unless, of course, the uterus is in the process of emptying itself prematurely, should be kept in mind.

#### Management

Although it may be necessary, on occasion, to treat the patient at home, it is undoubtedly preferable to send her to a nursing home or hospital as soon as possible. Here, removed from her home environment, husband and relatives, her isolation alone will often bring about a remarkable and almost immediate improvement. Indeed, if her condition is not too worrying it is best to leave her alone without specific treatment for about 24 hours. Firm kindness should be the guiding principle in the nursing approach and management, coupled with more or less strict isolation from the family (sometimes including the husband) and friends. The patient may respond well in a general ward but occasionally complete isolation is necessary.

It is very likely that by the time the patient has reached this stage all the usual drugs used to combat vomiting, such as the antihistamines and chlorpromazine, will have been tried without beneficial effect. There are many favourable reports on the use of chlorpromazine in hyperemesis, and the drug is certainly worth trying, but it must be remembered that damage to the liver is a possible complication. Therefore, should the patient not respond to this drug within a reasonable time, its administration should be discontinued.

The management of the patient will depend mainly on the absence or presence of dehydration, but, whatever her condition on admission to the institution, a careful watch should be kept on her general condition. In particular, attention should be given to the following: (1) Condition of the tongue, (2) pulse rate, (3) temperature, (4) blood pressure, (5) jaundice, (6) urine (total daily output, chloride content, presence of albumen, acetone, or bile), (7) optic fundi for optic neuritis and retinal haemorrhages, (8) development of a psychosis, and (9) blood urea.

On admission a fluid intake and output chart should be started immediately. If the patient's general condition is good and she is not dehydrated, no special therapy is necessary for the first 24 hours apart from isolation and moderate sedation while all food and fluid are withheld. At the end of this period an attempt may be made to start giving the patient small amounts of ice-cold glucose drinks by mouth with the gradual addition of some solid carbohydrate such as toast, rusk or cracker biscuit. If this is kept down she may on the next day be given mashed vegetables, jam and jelly, while the fluid intake is gradually increased to normal. Proteins are added gradually, but fats should be omitted until the diet is normal in all other respects.

The patient whose vomiting persists after 24 hours, or who is dehydrated on admission to hospital, requires more drastic treatment. Fluid has to be given intravenously in the form of a solution of glucose, which can be replaced by a saline solution, depending on the amount of chloride excreted in the urine. Vitamin B should be added to the intravenous

solution. The total fluid intake should be about 3 litres in 24 hours, with the output of urine and amount of vomitus as a guide. A barbiturate may be added to the drip for sedation.

Fluids in small amounts and an easily digestible solid carbohydrate may be given by mouth if the patient responds to this regime. If vomiting does not recur, the intravenous drip may be taken down and the diet gradually increased to the normal.

If the vomiting continues despite intravenous therapy, a stomach tube should be passed through the nose. Vitamin-rich liquid should be administered slowly and in small quantities. Sometimes hypodermic administration of cortisone has a beneficial effect.

#### Termination of the Pregnancy

Termination of the pregnancy has a very small place in the treatment of hyperemesis gravidarum. The infrequent necessity for termination of pregnancy has been established for a long time. McClintock, in an editorial comment in the New Sydenham Society edition of Smellie's *Theory and Practice of Midwifery* first published in 1876, writes: 'In the course of my experience in hospital and private practice I have met with only a very few instances where the symptoms were so urgent and so rebellious to treatment as to raise the question of inducing abortion, and in only one have I felt justified in resorting to this grave alternative'. In 120 cases of hyperemesis, Eastman,<sup>1</sup> of Johns Hopkins Hospital, Baltimore, USA, did not once perform therapeutic abortion.

It is often extremely difficult to decide exactly when to terminate pregnancy for, by the time it becomes obvious that termination is necessary, the patient may be so ill that the operation will only hasten a fatal outcome. Therapeutic abortion is indicated when: (1) Vomiting continues for several days despite treatment, (2) jaundice develops (providing one is certain that this is not due to infectious hepatitis), (3) there is bile in the urine, (4) the pulse rate is persistently over 100 per minute, (5) the temperature is persistently over 100°F, (6) the blood pressure is persistently low, (7) there is albumen in the urine, (8) the blood urea is raised, (9) there is retinal haemorrhage or optic neuritis, and (10) when the patient becomes delirious.

*Method of termination.* In the first 10 weeks of pregnancy the uterus can be emptied by dilatation and curettage. If the pregnancy is further advanced, abdominal hysterotomy is indicated although in the multipara a vaginal hysterotomy may be preferred. A colleague's approval must, of course, be obtained in writing before the pregnancy is terminated.

*Prognosis.* If the patient recovers, the recovery is usually complete except for the few cases that may develop polyneuritis. The liver and kidneys recover completely.

#### OTHER CONDITIONS

##### *Ptyalism*

Excessive salivation is a very rare condition starting at about the second month of pregnancy and ceasing about the fifth month. There is no effective drug for the treatment of this condition, although the belladonna group and benzyl benzoate may be tried. If fluid loss becomes excessive, intravenous replacement must be instituted. On exceedingly rare occasions therapeutic abortion may become necessary.



*Acute Yellow Atrophy of the Liver*

This condition used to be regarded as a toxæmia of pregnancy but is now believed to be a very severe form of hepatitis. It is an extremely rare condition and usually fatal despite all therapy.

## CONCLUSION

Hyperemesis gravidarum is a disease which seems to be on the wane whereas ordinary simple vomiting of pregnancy is as common as ever. The management of the individual case of hyperemesis gravidarum still remains a difficult

problem. The therapist should be able (a) to make the correct diagnosis and be certain that the excessive vomiting is in fact associated with the pregnancy and not due to an extraneous cause, (b) to know when a case of simple vomiting of pregnancy becomes one of pernicious vomiting, and (c) to know the exact time to terminate the pregnancy.

Ptyalism in its severest form is fortunately an exceptionally rare complication of early pregnancy. In both its mild and its severe forms it has so far baffled all therapeutic ingenuity.

## REFERENCE

1. Eastman, N. J. (1956): *Williams' Obstetrics*, 11th ed., p. 681. New York: Appleton-Century-Crofts, Inc.