Amylophagia and Toxemia of Pregnancy* (34088)

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Amylophagia is a form of pica; it is a perversion of the appetite. It is an abnormal craving for and the ingestion of quantities of laundry starch, generally the Argo brand. The amount and frequency of this ingestion is sometimes significant. The condition is common among black women in the south of the United States where it often coexists with clay-eating or geophagia. Amylophagia has also been observed among the northern urban black, especially when clay is unobtainable. This form of pica has been observed frequently among pregnant women(6).

Numerous correlations have been attempted between pica and possible deleterious effects. Dunston(4) first demonstrated an association between amylophagia and increased perinatal morbidity and mortality. Keith and his co-workers (6) have suggested that amylophagia may be responsible for trends toward lower hemic values among term pregnant patients seen in labor. O'Rourke and associates (7) noted a significant correlation between pica and an increased incidence of toxemia of pregnancy while investigating clay-eating practices in Georgia. They reported that the incidence of toxemia among patients practicing geophagia was almost twice as high as a similar group of patients who denied the habit of geophagia.

The aim of this study was to investigate whether the practice of amylophagia as seen in the patient population in the Department of Obstetrics at the Cook County Hospital in Chicago was also associated with an increased incidence of toxemia.

Methods and Materials. A detailed questionnaire was constructed to record information concerning the obstetric history of 500 term pregnant women admitted in active labor to the Cook County Hospital in Chicago. Special emphasis was placed on determining whether patients practiced amylophagia or other forms of pica. Because some patients were reluctant to divulge information about their dietary habits, for the sake of consistency, only one person conducted all interviews. The interviews were conducted at the bedside while the patients were in labor. Questions pertaining to possible ingestion of starch were placed at the end of the interview after establishment of rapport between the patient and interviewer. All patients who denied amylophagia were questioned as to whether they had ever heard of the practice and why they had not ingested starch. Those patients who admitted to amylophagia were then asked to quantitate the amount of starch ingested. The interview lasted 10 min, and included questions designed to subjectively as well as objectively determine patients with a history of amylophagia. The clinical records of these 500 patients were examined for evidence of toxemia associated with pregnancy either prepartum, intrapartum, or postpartum. For the purpose of this study, the standard obstetric definition of toxemia was used: hypertension, edema, and proteinuria, either alone or together. All patients with a history of hypertension or renal disease were excluded, whether or not they appeared to manifest signs of preeclampsia.

Results. Table I indicates the incidence of amylophagia in the population under study. Caucasion patients did not admit to amylophagia in any case. The incidence of amylophagia in colored patients was 23.8%. Among the nulliparas it was 12.7%, and among multiparas in this group it was 11.1%.

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TABLE I. Incidence of Admitted Amylophagia.

Patients	No. admitting amylophagia	Incidence	
		Absolute	Relative
Caucasian[a]	—	—	—
Negro			
Nulliparas	64	12.7	14.3
Multiparas	56	11.1	12.6
Totals	120	23.8	—

[a] These results differ from our original study in which 13 caucasian patients in a series of 1000 patients admitted to amylophagia (6).

Tables II and III show the incidence of toxemia of pregnancy. Caucasian patients had a total incidence of toxemia of pregnancy amounting to 9.3%. All patients in this group were non-starch eaters. Among starch eaters of the black population the absolute incidence of toxemia was 20.8%. The corresponding group of non-starch eaters had an incidence of toxemia of 17.7%.

Discussion. It is interesting to note that of the 500 patients selected at random, caucasian patients in no instance admitted to the practice of amylophagia. This contrasts with our original series of 1000 patients in which caucasions had an absolute incidence of amylophagia of 1.3%(6). In the present study all cases of amylophagia were in Negro patients. The difference in the incidence between the nulliparas and multiparas in this group was not significant.

TABLE II. Incidence of Toxemia in Caucasian Patients.[a]

Patients	No. in population	No. with toxemia	% Subgroup with toxemia
Starch eaters			
Nulliparas	—	—	—
Multiparas	—	—	—
Non-starch eaters			
Nulliparas	33	5	15.1
Multiparas	42	2	4.7
Totals[b]	75	7	9.3[c]

[a] Of the total of 86 patients exhibiting toxemia, none was diagnosed as having eclampsia.

[b] Represent totals of subgroups only.

[c] Percentages represent weighted means of subgroups.

Among 425 colored patients, a total of 79, or 18.6%, exhibited toxemia. The difference between the incidence of toxemia in starch eaters and non-starch eaters (20.8% as against 17.7%) was not significant.

Regarding the apparent absence of toxemia among our white population in the study, ample evidence exists to suggest that under normal circumstances, toxemia of pregnancy is not necessarily a disease of the Negro race (2). Recent work by Ayala and co-workers points out the close correlation between the incidence of toxemia and the nutritional status of the patient (1).

TABLE III. Incidence of Toxemia in Negro Patients.[a]

Patients	No. in population	No. with toxemia	% Subgroup with toxemia
Starch eaters			
Nulliparas	64	15	22.2
Multiparas	56	10	17.8
Totals[b]	120	25	20.8[c]
Non-starch eaters			
Nulliparas	143	34	23.5
Multiparas	162	20	12.2
Totals[b]	305	54	17.7[c]

[a] Of the total of 86 patients exhibiting toxemia, none was diagnosed as having eclampsia.

[b] Represent totals of subgroups only.

[c] Percentages represent weighted means of subgroups.

The results of our study fail to confirm the observations of O'Rourke and his co-workers that the incidence of toxemia of pregnancy increases among patients practicing pica. It is important to recognize that the patients in O'Rourke's study were mainly clay eaters, whereas the pica practiced in our population was almost exclusively amylophagia. It may well be that various forms of pica produce changes unique to the condition. If the increased incidence of toxemia among the pica practitioners of O'Rourke's study is due to the intake of dirt, the ingestion of starch does not appear to produce a similar increased

incidence of toxemia. O'Rourke does not subdivide his patient population into nulliparas and multiparas. Since it is well accepted that toxemia of pregnancy is primarily a disease of the nullipara patient, it is important to know the percentage of nulliparas and muliparas in each population under study (2, 5).

Although we have failed to show any correlation between amylophagia and toxemia of pregnancy, one should not disregard the possibility that other forms of pica may have deleterious effects on pregnancy and on the normal state of health (3).

We are continuing our investigations in this field and in subsequent communications will report on other effects of amylophagia on pregnancy.

Summary. Interviews were conducted of 500 term pregnant patients to ascertain possible amylophagia. Charts were reviewed to detect the presence of toxemia of pregnancy. No caucasian patients admitted to amylophagia. Of 425 Negro patients 120, or 23.8%, admitted to amylophagia. Of the Negro patients, 18.6% demonstrated toxemia. Starch eaters had an incidence of toxemia of 20.8%, nonstarch eaters had an incidence of 17.7%. There was no statistical difference in the incidence of toxemia among amylophagia practitioners and nonpractitioners. A correlation cannot be made between the possible deleterious effects of the varying forms of pica.

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