

she was in excellent health for about a year, after which tubercular infection attacked the lungs and other parts of the body, and in a short time she died with tuberculosis of the hip. In this case the result from sponging off the peritoneum in the manner I have indicated, and cleaning out the cavity thoroughly, was excellent. But the ultimate result was bad, and in such cases we get no credit for the operation.

Dr. W. B. DORSETT, St. Louis—Not enough attention has been given to the use of antiphthitic serum in the treatment of these cases. I operated on a girl, 12 years of age, eight weeks ago, who had undoubted tuberculosis in which the intestines were involved, as well as the uterus and adnexa. So far as breaking up the adhesions is concerned, it was out of the question. The abdomen was opened, the cavity washed out with normal salt solution, and I began the next day with injections of antiphthitic serum, as prepared by Dr. Fisch. The patient has gained considerably, her fever has disappeared, and she is now on the road to recovery.

Dr. CLARKE (closing the discussion)—I agree with Dr. Kelly that the cervix may become infected with tuberculosis, but it has not been my experience, nor according to the contributions I have read. In a number of cases infection takes place through the stomach, and probably through the alimentary canal, and in this manner reaching and involving the pelvis. It may infect other parts, as the lungs, and in that class of cases one is not assured that by operating and removing the tubercular deposit he will effect a cure of the disease, because there may be tubercular foci or centers in other parts of the body. I agree with one of the speakers that we should save a part of an ovary or as much as is possible in the case of a young woman, so that menstruation can go on. The history of some of these cases is sometimes remarkable, because after the principal tubercular foci have been removed, the peritoneum will take care of itself.

DIETETICS OF OBSTETRICS.*

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The problems of dietetics in pregnancy concern the questions relating to the quantity and quality of food necessary in normal cases for the best condition of mother and fetus, the best arrangement of meal times, the possibility of modifying the development of the child by diet so as to make spontaneous labor possible in cases of slight degree of pelvic contraction or easier in all cases, the possibility of determining the sex of the child by dieting the mother, and also the proper regulation of the diet in pathologic conditions, such as emesis or hyperemesis gravidarum, and in kidney diseases. During labor the question of diet is important only when it is very protracted or with weak or sick patients. During childbed the physician has to consider not only what food is necessary for the mother, both in normal and pathologic conditions, but also the effect of diet on the milk secretion, and thus on the health of the child. Since it would be impossible for me in this short paper to consider all of these questions with any degree of thoroughness, I shall only attempt to call your attention to their chief features and present briefly the results of the more recent studies of the various problems.

Concerning the quantity of food required during gestation, we meet at the outset the idea more or less common among women, and perhaps also among physicians, that the prospective mother "needs to eat for two, herself and her child." It is true that she must furnish the material for the growth of the embryo, which with its appendages amounts to, on the average, about one-half ounce a day. This, however, is all that is required. It is not necessary to provide for the energy that is required by a child after birth to maintain its body heat and its muscular movements. An infant needs relatively much more food than an

adult to maintain its condition of equilibrium on account of its proportionally greater body surface. I estimate that an infant should have about 500 calories of food a day. The unborn child is freed from this demand. Moreover, all the heat furnished by the katabolic changes in the fetus is as available for the mother as if the same changes occurred in her own body. Hence there is no reason to suppose that a pregnant woman will need more than a very slight excess of food. As a matter of fact based on careful measurements, it has been found by Baumm that a pregnant woman required no more food than a woman in the non-pregnant condition. The diminution in exercise and the better protection from cold will easily explain this fact so opposed to the ordinary belief. As regards the quality of food, it may be said that in normal conditions the ordinary mixed diet is perfectly adapted to the needs of the pregnant woman. It is only necessary to observe caution in the use of all foods that are hard to digest, such as salads, etc. It is not usually safe to trust the appetite when it manifests itself in unusual "longings."

In the later months of pregnancy and sometimes in the earlier months, the patient finds it difficult to digest a large meal, and hence it becomes necessary to increase the number of meals per day. If the chief meals are taken at the usual hours of 8 A.M., 1 and 7 P.M., it is desirable to add a lunch between meals. If a tendency to morning nausea exists, a glass of hot milk, taken in bed on awakening, adds a sixth meal-time. The following diet table may serve as a sample for a patient of average size in a normal condition, who takes a fair amount of exercise:

7 A.M. Hot milk, 6 oz.=180 gm.: proteids, 6; fat, 6; carbohydrates, 7; water, 160.
8:30 A.M. Apples, oranges, pears or grapes, 6 oz.=180 gm.: carbohydrates, 18; water, 158.
Coffee, with cream, 2 oz.; sugar, $\frac{1}{4}$ oz.=180 gm.: proteids, 2; fat, 4; carbohydrates, 13; water, 160.
Oatmeal, 2 oz.=60 gm.: proteids, 8; fat, 4; carbohydrates, 40; water, 6.
Cream and sugar, 1 oz.=30 gm.: proteids, 1; fat, 2; carbohydrates, 6; water, 20.
Egg, 2 oz.=60 gm.: proteids, 8; fat, 7; water, 35.
Toast, 1 oz.=30 gm.: proteids, 3; carbohydrates, 22; water, 5.
Butter, $\frac{1}{4}$ oz.=7 gm.: fat, 6; water, 1.
11 A.M. Milk 4 oz., seltzer water, 4 oz.=240 gm.: proteids, 4; fat, 4; carbohydrates, 6; water, 226.
1 P.M. Apples, oranges, etc., 6 oz.=180 gm.: carbohydrates, 18; water, 158.
Chopped beef or steak, 2 oz.=60 gm.: proteids, 13; fat, 1; water, 46.
Potatoes, 2 $\frac{1}{2}$ oz.=70 gm.: proteids, 2; carbohydrates, 15; water, 50.
Green peas or beans, 1 oz.=30 gm.: proteids, 2; carbohydrates, 4; water, 20.
Toast, 1 oz.=30 gm.: proteids, 3; carbohydrates, 22; water, 5.
Butter, $\frac{1}{4}$ oz.=7 gm.: fat, 6; water, 1.
Tea, with cream and sugar, 6 oz.=180 gm.: proteids, 2, fat, 4; carbohydrates, 13; water, 160.
4 P.M. Milk and seltzer, 8 oz.=240 gm.: proteids 4; fat, 4; carbohydrates, 6; water, 226.
6:30 P.M. Soup, with egg, 6 oz.=180 gm.: proteids 8, fat 7; water, 165.
Chicken, etc., 2 oz.=60 gm.: proteids, 14; fat, 2; water, 44.
Rice, 2 oz.=60 gm.: proteids, 4; fat, 1; carbohydrates, 46; water, 9.
Toast, 1 oz.=30 gm.: proteids, 3; carbohydrates, 22; water, 5.
Butter, $\frac{1}{4}$ oz.=7 gm.: fat, 6; water, 1.
Dessert. Farina, $\frac{1}{2}$ oz., milk, 4 oz., egg, $\frac{1}{2}$ oz., sugar $\frac{1}{2}$ oz.=160 gm.: farina: proteids, 1; carbohydrates, 11; milk: proteids, 4; fat, 4; carbohydrates, 6; egg: proteids, 2; fat, 2; sugar: carbohydrates, 15, with a total of 115 gm. water.
Coffee, cream and sugar, 6 oz.=100 gm.: proteids, 2; fat, 4; carbohydrates, 13; water, 160.
Total: Proteids, 96 gm.: fat, 74 gm.; carbohydrates, 303 gm.; water, 1946 gm.

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To this should be added one to four pints of water, according to the wishes of the patient, which will be modified of course by the amount of exercise she takes, the time of year, etc. It is best taken a glass at a time, two to three hours after meals. In summer, berries, melons, etc., may replace in part or whole the fruits mentioned.

The gross caloric value of the above dietary is about 2327 calories, of which 394 calories come from the proteids, 691 calories from the fat, and 1242 calories from the carbohydrates. In round numbers the dietary would contain about 100 gm. proteids, 75 gm. fat, and 300 gm. carbohydrates, with a value of about $400 + 700 + 1200 = 2300$ calories. From this it will be seen that about 17 per cent. of the food value comes from the proteids, 30 per cent. from the fat and 53 from the carbohydrates, a proportion that does not differ materially from that given by Rubner for his Category 1, which includes those who are not engaged in severe or considerable muscular work.

In considering the dietary best for pregnancy, as I intimated at the beginning, it is necessary to regard its effects on the development of the fetus, and particularly to discuss the question whether labor can be affected by means of the diet. Over 100 years ago many attempts were made to make labor easier by underfeeding the mother, often combining this treatment with free purgation, bleeding and overexertion. These measures were so disagreeable and often harmful to the patient, and had such unsatisfactory results, that the treatment was finally abandoned. About fifty years ago, Rowbowtham, a London apothecary, devised the fruit diet for his wife, who had had two severe and unfortunate labors. This diet consisted of raw or cooked fruits, apples, oranges, lemons and grapes, five or six times a day, with a small quantity of bread and butter once a day, fish or meat, with potatoes, once a day, and rice or sago, with milk, once a day. It was supposed that this diet contained a scarcity of bone salts and that in consequence the bones were soft and the head more compressible, making labor easier. Since fruit contains a considerable quantity of lime salts, it is probable that in Rowbowtham's diet, on account of the great amount of fruit eaten, as great a quantity of salts is consumed as in the ordinary mixed diet. The condition of the child may be attributed better to the deficient nutrition, just as rickets in children is often produced by a lack of one or more of the nutritive elements, especially to the lack of fat. It is certain that by this diet an underfeeding is brought about, but in a way that is not very disagreeable to the patient. The diet also produces free action of the bowels, which is an important factor in combatting headache and the general malaise from which so many patients suffer. On this account the dietary which I have already given contains, as will have been noticed, an abundant supply of fruits. On account of the deficient caloric value of the Rowbowtham diet, it can never be of general use, although it may be employed, no doubt, with greater or less thoroughness in some cases, with much benefit.

Ten years ago Prochownik proposed another dietary with the same object of influencing the development of the child. Starting with the fact that the child acquires most of its fat during the last ten weeks of its intrauterine life, Prochownik proposes to prevent this fat deposition or accumulation by keeping the mother, during this time, on an antifat diet

similar to Oertel's. His dietary in detail is the following:

Morning—Small cup of coffee, 25 gm., about 1 oz. of zwieback.

Noon—All kinds of meat, eggs, fish, as much as desired; little gravy; some green vegetables prepared with fat; salads; cheese.

Evening—The same, with 40 to 50 gm. of bread, and as much butter as desired; as a drink, 300 to 400 c.c. of red or Mosel wine. He forbids water, soup, potatoes, desserts, sugar, beer.

Prochownik proposes this diet, not for general use, but only as a substitute for the induction of premature labor in those cases of contracted pelvis of the first or second degree, where this operation would be indicated, or perhaps in primipara, where a difficult labor might be expected on account of undilatable vagina or vulva. With this diet he has secured easy labors and living children in a number of cases where previously there had been very difficult or instrumental labors and dead fruit. As he had expected, the children showed the absence of fat and were under weight, although they were of normal length. Similar favorable results have been reported from clinics in Giesen, Munich and Cologne. The objection that was made to the Rowbowtham diet, viz., that it involves an underfeeding, does not apply to the Prochownik diet. The deficiency in carbohydrates is made up by the increase in the quantity of fats and proteids. It may, however, be difficult to carry out because of the water restriction. I have had no experience in the use of the diet in cases of contracted pelvis, but in two recent cases of diabetes in pregnant women, where a similar diet was instituted, one being in a primipara, the labor was unusually easy. The weight of the children was slightly less than the average in children of the same length. I could not affirm a relative absence of fat. The primipara was a rather fat woman and I would rather attribute her easy labor to the considerable improvement in her general condition which was brought about by the diet. The favorable reports that have been given by all who have tried this diet make its further trial desirable, especially in properly selected cases, i. e., where the degree of pelvis contraction is slight and where the diet would probably favorably influence the patient's condition, as in cases of obesity.

A year or two ago both the laity and the profession were excited by the report that Professor Schenk of the University of Vienna had discovered and was making use of a method of determining the sex of the embryo by a system of diet. Last year his book appeared, giving the basis of his theory and the essence of his treatment. It would not be an exaggeration to say that all were disappointed in the book. The confused presentation of his theory and the absurdly small number of cases given to support his practice and confident assertions were very surprising. In brief, Professor Schenk believes that sex is determined by the ovum alone; that a well-nourished and developed ovum produces a male while a less perfect ovum forms a female. The development of the egg depends on the condition of the mother's nutrition during the few weeks preceding maturation, ovulation and fecundation, and perhaps for a short time following fecundation. The condition of the mother's nutrition is discovered by the presence or absence of sugar in her urine. If sugar is present, even in a very small amount, such as can be determined only by the phenyl-hydrazin test, the consumption of food is not perfect, and the tissues, especially the ova, suf-

fer. By an antidiabetic diet this nutritive error may be corrected and the ovum developed so that it may form a male. Schenk can give no directions to those who want a female child, but if a boy is wanted he proceeds as follows: if at the time of ovulation a careful examination of the urine shows no trace of sugar present, he advises an immediate impregnation. If sugar be present, he puts the patient on an antidiabetic diet, i. e., an albuminous fat diet, until all traces of sugar disappear. Then the patient is advised to become pregnant and the diet is continued for three weeks longer, when it may be stopped. If the patient can not carry out the treatment, or if in spite of it the sugar does not disappear, the case is hopeless; the patient can not bear sons. It is a curious coincidence that in three cases of diabetes in pregnancy which I have had since Schenk's theory became known all the children were girls.

The two most common pathologic conditions during pregnancy, which require a special dietetic treatment, are the vomiting of pregnancy and the kidney of pregnancy or albuminuria gravidarum. In mild cases of emesis gravidarum where there is only morning sickness it is generally sufficient for the patient to take a cup of hot milk in bed on awakening, remain in bed one-half to one hour, and then eat as soon as possible after arising. The proper preparation and serving of the food is here of exceptional importance. In more severe cases it may be necessary for the patient to take breakfast in bed and remain in bed the whole forenoon. In pernicious vomiting it is necessary that the patient remain in bed all the time in order: 1, that as little energy as possible be dissipated in maintaining bodily heat and in muscular movements and; 2, that the cerebral centers be supplied as well as possible in spite of the disturbed and weakened circulation. The diet should be milk given hot and alone or prepared in some way by mixing with water or some thoroughly cooked starch preparation. Water may also be furnished by the rectum or in cases of emergency by injection under the skin. I believe that the dietetic and hygienic management of emesis gravidarum is of the utmost importance and when properly carried out will make unnecessary medicinal and operative measures.

The ordinary dietary of pregnancy should be considerably changed in cases of kidney disease, the most common of which are those associated with the well-known pathologic condition described by Leyden as the kidney of pregnancy. It is a well-established principle that in all kidney derangements no substances which produce compounds irritating to the excreting kidney should be ingested. This rule excludes, in general, meat and beef teas, whose extractives are not wholly harmless. Moreover, an excessive production of urea which results from the consumption of meat is harmful. A free ingestion of water to wash out the kidney is desirable. This is supplied with the blandest of foods in the form of milk. Hence a diet consisting chiefly of milk has come to be considered as the most valuable food in kidney disease. This reputation it deserves in the case of the kidney of pregnancy. According to the urgency of the case, two to three quarts of milk a day, diluted if necessary to secure sufficient fluid, with one to two quarts of water is the ideal diet. A small amount of carbohydrates in the form of farina or rice may be added and perhaps a little toast or zwieback. Also grapes, oranges, apples or pears may be included.

The adjuvant treatment consisting in the avoidance of exposure, in sweating, saline purgatives, etc., influences the quantity of water as well as the amount of other nutrient elements required. Three quarts of milk furnishes 1900 to 2000 calories, which, with 300 to 400 more furnished by the fruits and other carbohydrates, is sufficient for the patient, who loses comparatively little energy by cold. When the acute symptoms disappear and the kidneys show a fair functional activity the quantity of milk may be reduced one-half and the wanting portion substituted by carbohydrates.

During labor many patients can take no nourishment, not only because they have no appetite but also because of frequent vomiting. As labor lasts only eight to sixteen hours generally, food is not required. Only in cases of great debility, as in consumption or in heart disease, is it necessary to care for the diet, and then stimulants rather than foods are indicated.

In the first three or four weeks of the puerperium the diet problem is an important one. During labor the patient has lost over one-tenth of her weight and during the first week of childbed she will lose more than one-half as much more. Half of this loss is from her own body, while the rest is the fetal part. To restore this loss and for the nursing mother to provide one to two pints of milk a day requires a good supply of food. On the other hand we may remember that she lies quiet in bed and is protected from cold.

Notwithstanding this evident need of a nutritious diet we are met with the popular belief, often shared by physicians, that a "light diet" is necessary, either because the stomach is weak and can not stand a full diet or because it may cause fever.

It is often true that a patient is not very hungry for a day, or perhaps two, after labor. She, however, does require much fluid and gladly takes large quantities of milk here indicated. As soon as the appetite for solid food returns, or in case it is present immediately after labor, a full diet should be provided.

The quantity which should be provided depends only on the capacity of the digestive organs, for which the appetite is a pretty good index. This is apt to be disturbed on account of the autointoxications and other derangements arising from a torpid bowel and resting muscular system. These disturbances can be corrected or eliminated by caring for the intestinal evacuations and by massage of the limbs and body.

Before laying out a typical or average dietary, it will be necessary to discuss one question of much importance, viz.: what is the influence of the various articles of diet on the secretion of milk? The popular ideas concerning the harmful effects on the milk of certain articles of diet, especially acids, although not based upon any scientific observations, are yet not eliminated from text-books and still influence professional practice. The recent observations of Baumm and Illner seem to show conclusively the falsity of this view. All kinds of fruits and even pickles, salads, etc., eaten by the nursing mother, had no effect on the demonstrable chemico composition of the milk nor on the nursing child.

We may conclude, therefore, that a dietary adapted to a nursing mother in childbed does not differ essentially from the mixed diet we have found suitable to the pregnant woman. If the appetite demands a larger quantity it might be desirable to increase the carbohydrates to 400 grams per day, thus increasing the caloric value of the ration about 400 calories.

With such a diet we restore the mother as soon as possible to a normal state and avoid some of the disagreeable consequences of a starvation diet that were formerly met with.

GANGRENOUS ULCERATIONS.

AFFECTING THE FACE, INCLUDING THE LIDS OF BOTH EYES AND DESTROYING THE EYEBALLS—THE RESULT OF BITES BY A MAN.

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Carrie L., colored, 24 years of age, living in Fairfax County, Virginia, was admitted to the Emergency Hospital on April 22, 1898, with the following history: Eight days before, at 2 A.M., she had been attacked by her husband in a fit of madness. He

and two or three still smaller ones on the nose and upper lip. On removing the scabs covering the eyes, after softening them in hot boric acid solution, it was found that the edges of both lids of the right eye had been eaten away for their entire length, that the conjunctiva of both the eyeball and the lids had been destroyed, and the cornea had an ulceration occupying two-thirds of its surface and extending through its entire thickness, through which the iris had prolapsed. On the left side the destruction was even more extensive. The whole of the outer halves of both lower and upper lids were involved in an ulceration which extended down on the cheek and temporal region, covering a space of three by four inches. The destruction was more profound than on the right side, going deep into the tissues of the orbit and reaching to the bone at the lower outer portion. The whole of the anterior half of the globe, including a portion of the sclera, was gone. The surface of the ulcers was covered with a most foul-smelling, greenish decomposing matter.



Figure 1.

stripped off her clothing and proceeded to bite her and claw her with his fingernails about the face and upper portion of her body, especially the chest, abdomen and back. She was found in an exhausted state by her neighbors in the morning and placed under the care of a local physician. Her condition, especially as to the injuries on the face, not improving, she was sent to the Emergency Hospital, where I saw her on the evening of April 22. I found both eyes entirely covered with a thick scab composed, as it seemed, partly of iodoform and partly of gangrenous tissue. There was a large phagedenic ulcer, with undermined edges, on the right cheek, three and one-half by two inches, involving the entire thickness of the skin, a smaller one near the angle of the mouth

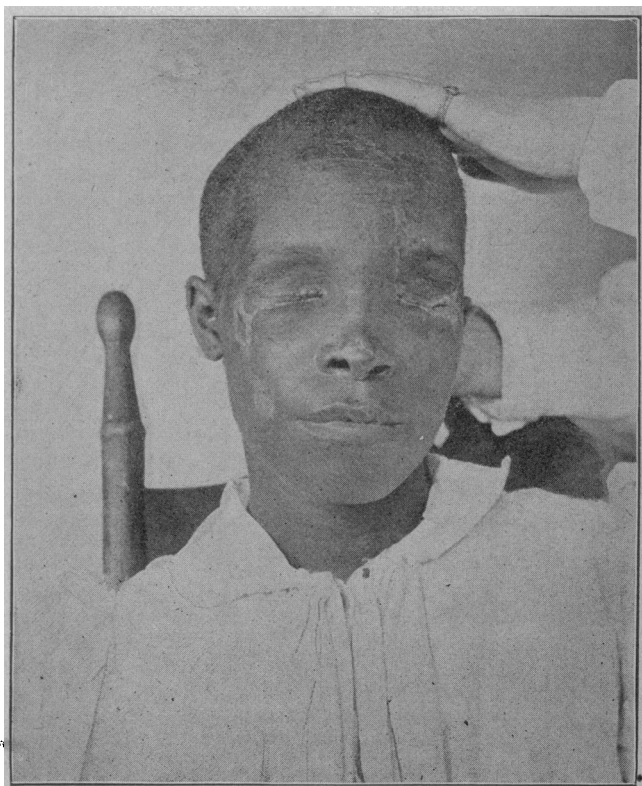


Figure 2.

The bites on the body were nearly all far advanced toward perfect healing, and these wounds seemed not to have taken on the phagedenic character of those of the face.

All the dead matter was carefully dissected from the surface of the ulcers, until healthy tissue was reached. In the left orbit this necessitated the evisceration of the contents of the eyeball and the cutting away of some portions of the tendons of the external muscles of the eye, and a removal of a large part of the orbital tissue. Fig. 1 gives a very good idea of the appearance after the wounds had been cleansed. After this thorough cleansing, the surfaces were covered with iodoform gauze and a protective bandage applied. An examination was made of the gangrenous