

PEDIATRICS OF THE PRESENT AND THE PAST

IX.

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P E D I A T R I C S

From the beginning of time the care of children has been one of mankinds' chief duties. Through the process of trial and error, he has developed a scientific method for the care of children.

Then as now, the doctors took a great interest in infant feeding. In the time of Homer, 1000 B.C. mothers nursed their offsprings. And in Rome, the mothers had their Goddess, Rumilea. It was the duty of all Greeks to treat the woman with a child at her breast with respect. In fact, Lyncugus, the King of the Spartans, became so interested in the child's welfare that he ordered that all mothers must nurse their young.

Some writers like Confucius (551-478 B.C.) believed that babies should not be weaned until they were at least three years old.

At the beginning of the Christian Era the wet nurse became very popular, especially in Athens and in Rome. Arrangements were made for a slave mother to nurse the child before it was born. Many young girls allowed themselves to become pregnant, because it was believed that the milk of a multipara was better than that of a primipara. In Rome there was a wet nurses' agency where these women would congregate. All their surplus milk they would sell. The richer matrons hired slave girls by the year. These women would live in the matron's house and enjoy all the privileges of a guest.

All the great Greek and Roman philosophers disliked this idea. They felt that the mothers were having too much fun and freedom.

Lacitus in 55 - 120 A.D. said, "Formerly Rome had many great men, because all mothers including those of noble birth, nursed and took special care of their own children. Of late mothers shirked their duty and entrusted their offspring for nutrition and care to some Grecian girl or inferior domestic whose influence was bound to spoil the child's character." *

Plutach believed that sickness was the only excuse for a mother not to nurse her baby.

Galen (130-200 A.D.) allowed a wet nurse to be hired when the mother could not nurse her child. He believed that the child's diet should contain more solid food when the baby started teething. The mother or nurse was to chew the food, then give it to the child.

If a mother is pregnant she cannot nurse her offspring. In view of this theory, the Jews in the third century passed a law stating that a widow could not marry until her child was at least $1\frac{1}{2}$ to 2 years old. But Rabbi Meir was a liberal. He allowed these widow women to marry if they used a contraceptive.

Milk and eggs were to be bought for the baby if no wet nurse was available when the mother became pregnant before her child was two.

Wet nurses were spoken of in the Bible. From that time to the 19th century they ran a flourishing business.

In the second century Soranus of Ephesus advised boiled honey for the feedings during the first two or three days. Milk, he felt, should not be supplemented during the first six months of life. After

* Archives of Pediatrics. "Short Review of the History of Infant Feeding." Hymanson, M.D. P.4.

this time, barley H₂O gruel from parched grain, and eggs could be added. The baby was fed with an artificial nipple. Soranus believed in wet nurses because they saved the mother for future childbearing.

After the child had been cleaned and put to bed, no food was given until the third day since the child could live on the nourishment it received from its mother. The belief was that this food had to be completely digested before the child was put to breast.

During these two days, the child should be given boiled honey which cleanses the stomach and intestines as does all cooked food. On the third day, the child is given to a wet nurse who feeds it until it is twenty days old. By this time, the mother's milk is no longer thick, cheesy and hard to digest.

Soranus used the fingernail and water test for milk. "Whether the milk will coagulate properly is determined by the fact if we put a drop on the fingernail or on a laurel leaf or other smooth surface it slowly spreads and when shaken, retains the drop-form; for if it flows at once in all directions, it is watery, but if it coheres like honey and does not change its drop form, it is too thick." * Thick milk is digested with difficulty and watery milk is not digested at all.

Mettlinger (1473) advocated gruel after breast feedings for those children who were not growing. The foods which may be given are: bread and milk, pea soup and broth. A little later, cooked meat. Boiled water was to be given between meals. Occasionally, a little wine,

* "The History of Pediatrics", George F. Still P.7. Oxford University Press. London: Humphrey Milford.

diluted with water was supplemented. If a child was to be weaned before it was a year old, it was fed on goat's milk boiled with a fourth of water. Sometimes, white bread and sugar was added to this.

In 1565 Vallambert recommended additional food after the third month. Semolina flour or bread and occasionally egg was added.

Sainte-Marthe who lived in the same century wished to have the child fed from both breasts. He had the mother empty her breasts the first few days because he felt that this milk was not beneficial to the infant.

By denying the child a few meals, after it learned how to nurse, it would experience hunger, and consequently would eat better. When the child was thin, it was given little to eat, but if it was strong and healthy, it was given all the milk it would take. The older a child, the less milk it should have. The diet was to be supplemented with milk and bread after the eighth month.

In 1775 Professor Leroy felt that a child should be nursed by a goat. This method was employed with luetic children. After several years, this system was discarded because the children developed anemia and rachetics.

Before Professor Leroy's time, children were sent to baby farms. There the mortality rate was very high.

In 1660 Sloane states the mortality of breast fed children was 19.2% and the mortality of the artificially fed child was 53.9%. One of the commonest diagnosis of death was "Died for want of breast milk". *

* Archives of Pediatrics, "Short History of Infant Feeding" p.7

At the beginning of the 19th century, in the Berlin Charité Hospital, the mortality ranged from 59% to 82% with children artificially fed and 5% or less for the breast fed infants.

According to Woodbury's study the mortality of the artificially fed child was three or four times higher than the breast fed infant. McKay a couple of years later confirmed these findings.

In 1929 Hoeffler and Hardy made an interesting study on children from the lower grades. Artificially fed children were inferior both mentally and physically. "They were most susceptible to disease of childhood, they were slowest in healing, and to walk and talk." * It was discovered that the children who were breast fed for four to nine months were superior both physically and mentally. But if nursed after nine months, they were mentally the poorest of all, although they were physically normal.

The early attempts at feeding infants artificially consisted in giving cow's milk according to the baby's desire. Many children thrived, but there were more who had gastrointestinal disturbances. The high mortality rate of the artificially fed infant is due undoubtedly to bacterial contamination.

The failure of infants to do well on artificial food was believed to be due to the differences in cow's milk. Many substances were added, but there was little or no success until Pasteur developed his germ theory.

* Archives of Pediatrics, "Short History of Infant Feeding" p.7

It was later discovered that boiled milk was better than clean raw milk. The death rate had dropped enormously, but the mortality was still high. Many attempts were made in order to determine why artificial milk was not as beneficial as mother's milk. At one time, the high protein content was considered. So subsequently, the milk was diluted. This did help some because the curds were smaller, making it more digestible. But this procedure made the infant lose weight. Sugar was added to increase the fuel value. Others believed that protein of the cow's ^{Milk} was a foreign protein and could not be readily digested by the infants.

Later the wise doctors thought that the fat was causing the difficulty. So skimmed milk was offered, and the child lost weight. By adding sugar the infant gained, but generally developed diarrhea.

Through the various experiments it was found that milk could be more easily digested by making the curds smaller. This was done by adding acid, diluting with water and cereal gruels, and by boiling.

Then, too, cow's milk has a high buffer value which would interfere with the process of digestion by neutralizing the gastric acid. In order to neutralize this buffer action various acids were put in the milk.

Since each infant requires its own formula, it is necessary that the doctor try all types of feedings. These artificial feedings must have sufficient calories, protein, fat, mineral salts, carbohydrates, vitamins, and water. The milk must be digestible and free from

harmful bacteria.

But we know it is the general consensus of opinion that the infants who are breast fed are larger, healthier and suffer less from disease. It is a known fact that the mortality during the first few months of life is lower for those infants who are breast fed. Since these facts are true, the doctors must encourage mothers to nurse their offsprings.

Many children have an allergy for milk. This allergy causes colitis, and urticaria. Sometimes skimmed milk clears up this condition. Then again, almond or vegetable milk is better.

The best carbohydrates to be added to milk are Karo, dextrin-maltose, and sucrose.

Acidified milk is to be used for colitis, and lactated casein for catarrhal discharges.

When there is vomiting with loose stools fat may correct the condition. Barley water is also used.

It is interesting to note that in 1838 Semon of Berlin compared cow's milk with breast milk, and that Jacobi advocated boiled milk as early as 1877.

A little later Biedert of Germany compared cow's and mother's milk making a clinical study of them. He discovered the differences between the curds.

In 1898 the caloric requirements of the infant were determined by Heubner and Rubner.

(P.127 "Infant Nutrition" Marriott)

Meig's book "Milk Analysis in Infant feeding (1885) was considered a classic and is still used.

A year later, Theodor Eschirich studied the intestinal bacteria in infants and found that fermented milk was good for digestion.

Finkelstein with Meyer in 1907 discovered protein milk for feeding cases of alimentary intoxication. They also made a classification of nutritional disturbances.

1. Disturbed balance
2. Dyspepsia
3. Intoxication
4. Decomposition.

In the early days, we believed that it was necessary for the wet nurse to wean her own baby. It was known that a healthy nurse could feed two babies without difficulty. The healthy child stimulated the flow of milk.

When choosing the nurse, it was not necessary that her child be the same age as the one who was to be nursed. The wet nurse must be in good health and be free from tuberculosis and social diseases. The doctors felt that it was a good thing to have the baby nurse from the breast because there was less danger of contamination. Then, too, the baby generally ate more. It didn't matter whether a white or black woman nursed the child.

Nowadays the wet nurse is rare in private practice. Occasionally in an emergency she is employed in the hospital.

Oribasius in the fourth century felt that a wet nurse should be kept busy. "In work let her walk in various directions and spin and winnow and draw up water in a pail." * Through the exercising of the shoulders he believed that the milk would be stimulated.

He set up definite standards for wet nurses. Those women between the ages of thirty-five and forty-five who were normal in weight, and not diseased could act as wet nurses. The best nurse was the one who had delivered a male child a few weeks before. These nurses should guard their diet by avoiding dry foods, or foods with unpleasant odors.

Jacques Guillemean in the 15th century advocated maternal breast feeding. In fact he felt that there was no difference between the mother who would not feed her child, and the woman who committed abortion. He gives four reasons why a woman should not employ a wet nurse:

1. Child may be exchanged.
2. There was no opportunity for mother love.
3. The nurse might infect the child.
4. Some bad traits may be acquired from the nurse.

Paulus Bagellardus (15th century) wanted the wet nurse to be between the ages of twenty-five and thirty-five with rosy cheeks and good morals. Her diet must consist of little meat and no wine, nor salty dishes. She had to control her temper, bathing, exercise, and sexual intercourse.

Metlinger's ideas are about the same as his contemporaries. If a wet nurse becomes pregnant she must not offer her breast because

* "The History of Pediatrics" George F. Still P. 37. Oxford University Press, London: Humphrey Milford.

the fetus takes all the mother's nourishment. When a wet nurse has a child she should not nurse the foster infant unless her child is at least six weeks old.

In order to cure watery milk, the nurse must drink warm goat's milk or cold cow's milk ~~in~~^{to} which has been added one teaspoon of sugar. Then fast for three hours. She must work less, sleep more, and eat tender meats and pastries. Occasionally she may have sweet wine.

If a woman has little milk, she should eat heartily, including in her diet the udder of goat's or of sheep. The breasts must be rubbed with a soft cloth three hours after eating and when fasting.

Since the mortality was so high in the 18th century, William Buchan suggested that the crown give each poor family a little premium if the child lived a year. He felt that mothers would carefully guard their infants, and not abandon them when they acted as wet nurses. He wanted young girls to learn how to care for children so that they would make good mothers.

Underwood endorsed the plan of Thomas Denman who with Richard Craft built an institution for the children of wet nurses.

A great deal of material has been written about the newborn.

Aristotle (who lived in 384 B.C. was not a medical man although his father was the court physician) wrote about birth. He believed that the nurse should tie the cord. If the string became loose the child would die of hemorrhage. If the child appeared dead when it was delivered,

the nurse squeezed some of the maternal blood from the cord into the child. This revived it.

During birth, the child's hands are at its side, but immediately after birth, the child cries, and brings its hands to its mouth. During the first day, the child secretes a sticky mass which was called meconium. It remains black until the infant receives milk from the mother.

During the first forty days of life infants don't laugh or cry during the day but are apt to do both at night.

According to Aristotle, those children who are well nourished and who drink rich milk may have convulsions which are also caused by the fact that the mother drinks undiluted wine, eats "windy foods", and does not have good bowel movements.

It was believed that the danger period for the child was the first seven days. If he was able to survive this time he was christened.

It is interesting to note that Aristotle wrote that "In man the male is more often born with deformity than the female"; an observation which we now know to be correct with regard to some congenital abnormalities. *

Aristotle also noticed that all children's eyes were blue at birth and as ^{they} it became older they changed. He believed that all children were born with red hair which changed color as the child grew older.

Soranus of the 2nd century is the first medical ~~writer~~ to mention salting the infant. Use soda ash of a fine or coarse variety and sprinkle it on the child, avoiding the eyes and mouth. This salting

* "The History of Pediatrics" George F. Still. P.15. Oxford University Press, London: Humphrey Milford.

hardens the skin. If the child is delicate, mix the salt with some honey or oil, and apply it to the skin. After the salt has been applied, it should be wiped off, and the child given a warm bath. Then salt the child a second time and bathe it in hot water. Clean nose, mouth and ears with the finger. Drop some oil in the eyes in order to wash away the mucous in them. If this is not done, the child may become blind.

After these things are finished, put the little finger, the nail of which has already been sharpened, in the anus, and cut the membrane. Then the meconium will be excreted.

Put a pad saturated with oil on the navel. The part of the cord which has been left, bind to the thigh or roll it up in some wool and lay it on the navel. The latter method is best because the pressure will mould the umbilicus.

Much was written about the newborn in the poems of the 15th century. After the child is born mix together an equal amount of salt and roses and rub the child with this mixture in order to strengthen its limbs.

Then cut the cord four fingers from the stomach and dress it with powder of bole, dragon's blood and myrrh. Cover this with a piece of cotton dipped in sweet oil and bind. After he is dressed rub his nose with rose oil.

Bagellardus said that the baby should be wrapped in a soft cloth after delivery. If it is not breathing, the midwife should blow

in its mouth or anus. If the anus is closed, the midwife can cut it with a hot gold thread.

When a blue baby is born the blood must be let out of the umbilical vein, and the cord tied loosely until it collapses. After the umbilicus is cut, tied and covered with myrtle powder, the child should be bathed in a tub of sweet water. When the bath is over the child is bound so that the body will straighten. Before binding the legs, exercise them by bending the legs back so that the soles touch the buttocks.

When the child is dressed put him in a semi dark room in order to prevent blindness. If the baby can't sleep at night first try some of these mild remedies. "1. Inunction of the forehead and nose with oil of violets; 2. with oil of violets and oil of dill mixed with the milk of the woman who suckles him and with a little wad; 3. with the addition to the above mentioned, an inunction of a little opium, or jusquiamus or juice of mandragara; 4. do an inunction of ointment of populeon, but with gentile rubbing and in small quantities." * A child could be given a biscuit soaked in white poppy seed.

Wurtz lived in the 16th century. He believed that children would be frightened, have the itch, and be melancholy if laid with their heads upright. Also, children should not be left on their backs because they would dream.

* "The History of Pediatrics" George F. Still. Oxford University Press: London, Humphrey Milford.

A child's head must be thoroughly dried after it is washed in order to prevent deafness and pimples. The children with sore eyes are treated with mother's milk.

Women should not bind their children without a doctor's council because many have been crippled through incorrect binding.

When carrying a child support its back. Be sure to change the child from one arm to the other in order to prevent the leg next to the body from becoming longer.

When the infant is in the cradle, cover with a scarf, especially a green one so that its eyes will be protected.

William Cadogan (1711-1797) said that the mothers kept their children so warm that they became unhealthy and couldn't stand the fresh air. But he wasn't a fresh air avocate, he felt that too much air would produce a cold in the mother and child.

He also wished that the child be bound less tightly because the bowels were unable to move. The child's clothing should be kept clean. He said that there was no basis for the belief that clean clothes would rob the child of its nourishing juices. But it was not necessary to put shoes and stockings on the infant. He felt that the child would learn to walk sooner without shoes.

Cadogan wished to have the child go hungry for three days until the milk came in. He was much against the practice of a wet nurse because he felt that the milk came too quickly for the newborn, and that the

infant's mother would develop milk fever because the child would nurse her breast too strenuously.

If the child wasn't allowed to sleep very long in the daytime, he would sleep at night. But we know now that this is a fallacy.

When the infant stools are green give it alba magnesia daily, one or two drams, until the stools are normal.

A CASE STUDY OF PNEUMONIA

Hippocrates mentioned the disease often but confused it with other ailments.

It was not until four centuries later that Aretaeus described the disease and associated the characteristic pain with the involvement of the pleura.

Fifty years later, Galen in the second century tried to dissociate pleuresy and pneumonia.

Many writers described pneumonia but none made a contribution. It was not until the 17th century that Malpighi demonstrated the vesicular nature of the pulmonary tissues. He is credited for correlating the clinical aspect of the disease with the morbid anatomy.

During this time Auenbrugger wrote on percussion but no one was interested in this work.

When Laennec introduced the stethoscope, he described the physical findings much as they are now. He noted the difference between the sounds heard in an adult's and a child's chest. Auscultation started

the modern era of pneumonia.

In the 19th century, Leger shows the difference between bronchitis and pneumonia. There is much confusion between hepatization of lungs and atelectasis but Ruzz separated the two conditions.

The lobar and lobular types of pneumonia in children were differentiated by Rillet & Barthez and also by Rokitansky in the middle of 19th century. Serfert originated the term bronchopneumonia in this period.

Juergensen in the latter part of the 19th century suggested that it was infectious. Later we have Klibs, Friedlander, Koch finding the organism. Then the grouping of this organism into four types by Cole and his collaborators at the Rockefeller Institute.

Pneumonia is inflammation of the lungs. The signs and symptoms are: fever, chills, pallor, cyanosis, jaundice, headache, stiff neck, cough, dyspnea, rapid and irregular breathing, loss of appetite, vomiting, diarrhea, abdominal pain and distension. There is a moderate enlargement of the spleen. Sometimes, the cubbing of fingers, convulsions, coma, delirium and leukocytosis.

Lobar pneumonia occurs in healthy, robust infants. It is caused by pneumococcus in most of the cases.

Lobar pneumonia is caused by the micrococci pneumoniae, a group of germs of which there are four types. Those of group IV are found in the mouth. Group III is the most virulent but not very common. The well known forms of pneumonia are caused by types I and II.

The patient suffers from an acute infection with inflammation of

the lungs and toxemia which attacks principally the nervous system, the vital centers and the blood vessels.

Prophylactic measures are: isolation of patient; protection from patient coughing in one's face by wearing a mask, and carefully disinfecting all sputum. It has been proven that particles of sputum will carry bacteria fine but when projected from the mouth by coughing or forced breathing.

Richard, a young and well nourished infant, eighteen months old entered Doernbecher Hospital with a temperature of 102.4 F. (rectally); respiration 48, labored; pulse 140, full. His skin was clear but he was slightly cyanotic. There was a slight discharge from his nose. Tongue coated; lips dry and cyanotic. Head and eyes were normal.

The physical examination disclosed: over both lung fields moist râles; abdomen regular except for a bulging umbilical stump. The baby had been brought to clinic when it was three weeks old for an umbilical hernia, and loss of weight. The hernia was taped and the formula changed. Heart tones regular and forceful, of good quality, no murmurs; bladder full. Richard lives with his mother, twenty-two, and father, twenty-six, who had gonorrhoea a year ago. He is under treatment. Richard and his mother are not infected.

Ever since he was born Richard had been suffering^{from} a chronic cold. Occasionally a severe cough would develop. The day before he entered the hospital he had a cough which became very severe during the night. He was distressed and breathed with difficulty. But he had no cyanosis, nor

vomiting. A specimen of urine was sent to the laboratory on which the report was: acid reaction; specific gravity 1.028 (denotes concentration); slightly cloudy; yellow in color.

The leukocyte count was 9,100, the normal being 5,000 - 7,000. This is the best illustration of infection and is a great aid in diagnosis.

The doctor left orders to give paregoric m IV every four hours for rest. The most important nursing measure is to give the child rest and force fluids.

Richard became very cyanotic an hour after he entered the hospital. He was given nasal oxygen.

Boric (2%) eyes irrigations were given when necessary because there was a great deal of purulent drainage.

Two ounces of karo water 5%, orange juice 50%, or barley water were given every hour.

On the second day a lumbar puncture for diagnostic purposes was done. The fluid was clear with a cell count of five. The tuberculin test was negative. The doctors were afraid of tuberculosis since two maternal aunts died of this disease.

Chloratone gtt. i were given every four hours to relieve and inhibit the nasal discharge.

In the afternoon the child's ^{Abdomen} became distended. A rectal tube relieved the flatus.

The temperature on the second day was 100.4 F which rose to 102.4 F in the afternoon, and fell again that evening to 100 F.

On the fourth day the nasal oxygen was discontinued. The child was placed on a formula of evaporated milk, oz. $11\frac{1}{2}$; water oz. 14;

and kawo 50% oz. 2. Five and a half ounces were to be given every four hours. The temperature had fallen to 99 F. where it remained until the infant's discharge.

On the fourteenth day the child had a shower bath.

Twenty-eight days from his admittance, he was discharged in good condition.

D I A B E T E S

In the writings of the Chinese in the 6th century B.C. the cardinal symptoms of diabetes was found. But there is no mention of them in the Bible and the Talmud.

The disease was named by Aretaeus, and Galen and Celsus wrote of diabetes, but their conception of it is much different from ours.

Even the early Hindu physicians wrote of the saccharine content of the urine.

Dobson in the 18th century demonstrated sugar in urine, but sugar was not found in the blood until 19th century by Ambrosian.

In the middle of the 19th century, Claude Bernard showed the relationship of sugar formation to the liver's function.

In the 18th century Rollo pointed out danger in a high carbohydrate diet.

In the later part of the 19th century, Kussmaul described diabetic coma.

Menkowski and Von Mering related the disease to pancreatic disturbances. And in 1922 insulin was isolated by Macleod and his co-workers.

Jane was born on February 2, 1927 of American parentage. Her father died of gangrene of the leg which was later traced to a diabetic condition.

Jane entered the Doernbecher Hospital with a temperature of 97° F. by mouth. Unable to obtain pulse. Patient was in coma.

Patient was well until three weeks of age, when she began to lose weight and became very thirsty. Last night she was very sleepy and vomited "white worms" but was able to drink some H₂O during the night. The patient has had kidney trouble for a year. Skin was dry, with much generalized wasting. Attitude was drowsy, yet restless. Head and neck, no stiffness; eyes wandering; pupils 2.5 mm. and active; mouth dry; breath not definitely acetone; mucous membranes red and very dry. Chest wasted; no evidence of roughened breathing; no rales. Heart rate slow and regular. Abd. normal.

Impression: Diabetic coma with acidosis.

Final diagnosis: Diabetes mellitus.

Rt. Hemiplegia

Aphasia

Left ascending Pyelonephritis.

6-13-35 patient admitted in coma. External heat applied.

Intravenous of 500 cc N. saline given. Then 500 cc of N.S. with Insulin U 40 subcutaneously followed by 500 cc N. saline intravenously. After

this Sub-q of 500 cc N. Saline plus 80 cc Sodium lactate was administered. The child awakened and spoke. She was given Insulin U. 40. Reduction test 4⁺. That evening, the stomach was lavaged with 800 cc of H₂O. 100 cc was retained by patient. Six hours after admittance, the child's face became flushed and warm. The pulse was very rapid. Reduction remained 4⁺. Sub-q of 400 cc H₂O plus 80 cc Sod. lactate given. This was followed by an additional 500 cc N. Saline. The patient vomited orange juice as soon as it was given.

6-14-35 Early this morning. Reduction 3⁺ Insulin U 40 given. An hour later Reduction 4⁺. 500 cc 5% glucose started. Patient vomited. Nothing given by mouth. The child was still unresponsive. A sub-q of 1000 cc of 5% glucose started at 11:30. Insulin U. 5 at 11 A.M., then U. 5 when 300 cc of sub-q was injected, U. 10 after 600 cc has been taken, and U. 5 after 1000 cc has been given. Ice cap to head.

The reduction remained 4⁺ until five o'clock that evening. During this time the patient was rational at times. 30 cc of orange with 5% dextrose was given every hour if patient could be aroused. At five o'clock that night Reduction 3⁺. Insulin U. 10 given ten minutes before 500 cc 5% glucose N.S. was started intravenously. An hour later Insulin U. 40 was administered. Reduction 3⁺ at seven that night. Patient responded to evening care. An hour later Reduction 1⁺. Insulin U. 10 given before 1000 cc 2.5% glucose in N.S. was started. During the night there was a trace of sugar in the Reduction. Around three o'clock that morning the patient did not respond. Her arms and legs became rigid.

Caf. Sodium Benzoate .5 cc q $\frac{1}{2}$ hour for three doses was ordered. After the last dose the patient's skin became warm and moist. A little later her mouth filled with mucus and the body became rigid. The pulse was 13 but of good volume. Reduction --.

6-15-35 500 5% ^{glucose in} N.S. with U. 15 Insulin given about 8 o'clock.

Reduction 2⁺. Two hours later, the child had a severe convulsion which lasted a minute. Forty-five minutes later she had another which lasted five minutes. (Patient voids involuntarily), A spinal puncture was done.

After the puncture Sodium luminal grs. $1\frac{1}{2}$ was given by hypo. and chloral hydrate grs. 15 by rectum. Less than one-half hour after these sedatives had been given, the patient had another convulsion. Reduction 4⁺. An

hour later Reduction 2⁺. There was another convulsion lasting two minutes.

Reduction trace. Chloral hydrate grs. 10 per rectum for convulsions was administered. 1000 cc 2.5% glucose with insulin U.5 was started about five o'clock. A couple of hours later the child was again in coma.

500 cc of 5% glucose in N.S. given late in evening. Reduction --.

Some mucous in throat. Patient moved left arm slightly. Later spastic movements of head and right arm lasting two and one-half minutes.

Twitching of right side of face for one minute following. A large amount of mucous in throat causing difficult breathing. Atropine grs. 1/500 "H" proved effective for mucous. Suction when necessary. Sodium luminal grs. 1 "H" to quiet convulsions and chloral hydrate grs. 10 for rectum. Reduction, trace. Voided every hour about 30 cc. No fluid taken by "os". Left eyelid edematous.

On the morning of the 16th, the right side of face, shoulder,

and hand twitched continuously. Reduction -. Chloral hydrate grs.10 per rectum given. Pulse fair, respiration slow and shallow. 500 cc 5% glucose in N.S. started at 10 A.M. Patient not twitching at 11 A.M. Insulin U.5 administered. Reduction 3⁺. At 4 o'clock Reduction -. Glycerin and lemon to cleanse mouth. Large amount of grayish and bloody colored mucous in mouth. Nasal retention gavage started. 30 cc H₂O q $\frac{1}{2}$ hour. Reduction - at five o'clock but patient cynotic. Half an hour later, twitching of left side of body and head. At seven o'clock Jane was in coma. Reduction -. About nine, 100 cc (100%) orange juice retained and q 1 hour after that. Reduction 3⁺. Insulin U. 5 given. Face edematous. No movement of right extremities but occasional movement of left arm and leg.

6-17-36. Moves left hand and leg occasionally. Sore on left buttocks with small amount of bleeding. 200 cc H₂O at nine. H₂O then discontinued until three o'clock. 24 hour speciman started. Enema returned highly colored.H.W.P. q 4 hour to both forearms. No urine expelled round catheter. In afternoon reduction 1⁺. Cried out for fifteen minutes. Boric irrigation to eyes returned with a moderate amount of purulent drainage. 100 cc 50% orange juice q. 1 hour started after three o'clock. Serous drainage from left side. Alcohol dressings applied. That night patient was gaviged q. 1 hr with 150 cc H₂O or orange juice. Insulin U. 5 given twice during the night.

6-19-35. Tincture of Benzoin applied to sores on side. Later, silver nitrate and tannic acid was used to dress the sores. Patient cries out when moved. Insulin U 5-5-5 administered during day.

6-21-35. Sores rubbed with cold cream and tannic acid. Insulin U 5-0-5 given.

6-22-35. Fluids given by mouth and retained. Reaction negative. Diet increased to: milk 200 cc three times a day; orange juice 200 cc in the morning, 100 cc at noon, and 200cc for dinner. Insulin U.8-0-6

6-24-35. Insulin U.10-0-8. Reaction negative.

6-25-35. Eggs and butter was added to the diet. A light cradle placed over her extremities in order to prevent pressure sores.

6-26-35. A diet of protein 45, carbohydrates 140, and fat 80 was given. Insulin U.10-0-10.

7-3-36. Side dressed daily with Balsm of Peru. Infra red treatment to side twice a day for twenty minutes. Followed by Boric packs for one half an hour. Insulin U.10-0-10. Diet: protein 66, carbohydrates 170, fat 110.

7-8-35. X-ray of left mastoid clear; right cloudy with questionable cell destruction.

7-20-35. Pyelogram showed that the right kidney was not enlarged, fills well; the calyces, pelvis, and ureter are normal. Left kidney enlarged, marked hydronephrosis, moderate hydro-ureter, budding calyces. Considerable enlargement of spleen.

7-26-35. Surgical prep. for left Nephrectomy.

7-27-35. Intravenous of 5% glucose 400cc with Insulin U. 10. Atropine grs. 1:500 produced a rash which appeared on the left side. The patient's hands and feet were cold. She returned from surgery without operation. Two hours later, the rash disappeared, and the pulse dropped from 140 to 88. Liquid diet retained. Urine alkaline. Insulin U.5 given at one o'clock, U.10 at six.

7-28-35. Potassium Citrate grs. 15, and soda bicarbonate grs. 15 given twice. Insulin U. 10-5-10

7-31-35. To surgery for a nephrectomy. Atropine grs. 1/500 given after 400cc of 5% glucose had been taken. Returned from surgery in good condition. Pulse, 102; respiration, 26. One half an hour later pulse, 152; respiration, 28. Codeine grs. 1/8 given. Followed five minutes later by codeine grs. 1/4. Restraint applied. Intravenous of 5% glucose in normal saline started. Two hours later Insulin U 2 injected. An hour elapsed, and codeine grs. 1/4 was repeated. Patient was asleep a half an hour later. The nurse attempted to give carbogen but patient fought treatment. In the afternoon water 15cc was started, and increased 15cc q 1 h up to 60cc. Reduction 3+

8-1-35. Reduction negative. Involuntary bowel movements. Codeine grs. 1/8 for pain in the evening. Diet: orange juice, 100cc; milk 200cc; egg nog 300cc; orange juice 200cc; and milk 200cc. Insulin U 8, B.I.D.

8-2-35. Soft diet: Carbohydrates 50, protein 20, fat 30.

8-4-35. Patient is to sit up in bed. Dressing changed, moderate amount of purulent drainage.

8-7-35. Diet: P.6; C.20; F.16. Dressing was changed, moder-

amount of purulent drainage. Chinsol gauze applied to sores on buttocks.

8-9-35. Sutures removed. Incision in good condition.

8-11-35. Out on roof most of the day.

8-13-35. Patient fell out of bed, no injuries.

8-15-35. Insulin U. 7-0-7. Up in chair for one hour.

8-17-35. Insulin U. 10-0-6. Walking about.

8-21-35. Insulin U 8-0-0.

8-22-35. Insulin U 5-0-0.

8-24-35. Insulin U 2-0-0.

8-26 -35. Patient discharged in good condition. Insulin

Units 10-0-0.

Bibliography

- "Abt's Pediatrics", Isaac A. Abt. Chapter I.
- "The Compleat Pediatrician", Wilburt Davison.
Pneumonia, page 667.
Diabetic coma, page 1338.
- "Pediatrics of the Past", John Ruhrah.
- "Pediatric Nursing", Gladys Sellow.
- "Pediatric Nursing", Bessie I. Cutler.
- "Diseases of Children for Nurses", R. C. McCombs.
- "The History of Pediatrics", G. F. Still.
- "Childrens Diseases for Nurses", W. P. Lucas.
- "Feed the Baby", Dr. H. Rothschild; Archives of Pediatrics, p. 64.
- "The Advantages of Certified Milk", Dr. J. A. Lobey;
Archives of Pediatrics, Feb. 1936.
- "Short Review of the History of Infant Feeding." Hymanson
Archives of Pediatrics, . 1936.

