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### ORIGINAL COMMUNICATIONS.

#### La Grippe during the Puerperal State.<sup>1</sup>

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DURING the last epidemic of influenza I had several cases following confinement. One occurred on the fourth day of the puerperal state, two on the twentieth, and the others later.

All except the first one were easily diagnosed and of no interest, except that in one of these the patient called in the evening on a friend who had la grippe, and the next morning had it herself.

On account of, first, the difficulty of differentiating between la grippe during the lying-in period and puerperal fever; second, the lack of literature

on the subject; and, third, the relief an exact diagnosis would give the doctor and the patient, I decided to report my first case, and also what I can in regard to the relations between, and the diagnosis of, la grippe during the puerperal state and puerperal fever.

#### HISTORY OF THE IMPORTANT CASE.

*During Pregnancy.*—Threatened miscarriage, minor symptoms of uræmia, but no albumen, and some hysteria.

*During Labor.*—*First Stage:* Lasted three days from adhesion of the membranes about internal os. Patient did not send for me, thinking the "pains"

<sup>1</sup> Read before the Colorado State Medical Society, June 19, 1894.

were "false." *Second Stage*: Hand introduced into vagina to rotate head, position being l. o. p. This was followed by the use of the forceps. No laceration of perineum. *Third Stage*: Placenta complete; very little if any of membranes missing. Intra-uterine bichloride douche given.

*During Puerperal State.* — *First Day*: A.M., temperature 99.4° F.; pulse 84; after-pains severe but not frequent; tenderness in uterus. P.M., temperature normal; pulse 80; after-pains and tenderness as above; *pain in left half of head and left side of body to the hip.*

*Second Day*: A.M. and P.M., temperature normal; pulse 80; after-pains and tenderness in uterus less; pain in left side of body absent.

*Third Day*: A.M., temperature normal; pulse 80; breasts full and a little sore; fundus of uterus one inch lower than on previous day; after-pains not present; tenderness in uterus less; difficulty in starting urine; *pains in limbs and back.* P.M., temperature 101.8° F.; pulse 90; bowels moved once; other symptoms as above.

*Fourth Day*: Temperature, 2 P.M., 103.5° F.; 8 P.M., 105° F.; 12 P.M., 100° F.; chills all day; sweating profusely at 12 P.M., increased probably from enema of warm water; pulse, 2 P.M., 100; 8 P.M., 110; 12 P.M., 100; bowels moved, A.M., once; P.M., twice; urination difficult; *pain severe in left side of head, and in arms, legs, and back;* great distress in the stomach, making the patient groan frequently; breathing slow and irregular; no cough, but auscultation showed slight roughness; patient extra talkative and wide awake; *fundus of uterus smaller and still less tender; lochia without odor and containing only a slight amount of*

red blood; cervix looked badly inflamed, and os not closed; water from uterine douche clear, excepting a few shreds and a little blood; patient easy 12 P.M. The condition of the cervix was very probably due to a rolling out of the mucous membrane of the cervical canal, as she had an extremely bad laceration, the result of a previous labor. *Diagnosis.*—In the afternoon I thought it was puerperal fever, later decided it was la grippe.

*Fifth Day*: A.M., temperature, 100.8° F.; pulse 90; bowels moved eight times from salts; pain in head returning; no chill since 12 P.M.; tenderness in uterus nearly gone, urination improved. P.M., temperature normal; pulse 72; felt much better, but was weak.

*Sixth Day*: A.M., temperature 99.4° F.; pulse 84; sat up in bed, talked a good deal, and felt best of any day; fundus half way to symphysis.

*Seventh to Fourteenth Day*: Everything normal, except on the *tenth*, some "mutton-like" discharge, probably clotted blood.

*Treatment.* — A vaginal douche daily. First day, antikamnia gr. v. for headache. Third day, salts q. s. for bowels. Fourth day, calomel and salts, tr. gelsemii ℞ to break up fever; uterine douche to remove any retained secundines; morphia gr. ¼ hypodermically twice for pain; enema of hot water for chills, and to cause sweating; red pepper in milk for distress in stomach.

*Convalescence.* — Patient a little weak, and had a mild cystitis a month or two later, and some "bearing down." These were also present after a previous labor.

*Diagnosis.*—I base my diagnosis of la grippe upon the presence of marked

and repeated chills, the severe pain in the head, body, and extremities, the disturbance in the stomach and lungs, the short duration of the disease,—four to seven days is given as the average duration of la grippe,—and upon the presence of the epidemic.

We will exclude the different forms of puerperal fever as follows :

(1) Endocolpitis, endometritis, metritis, parametritis, pelvic and general peritonitis, and uterine lymphangitis may be excluded on account of the absence of the following symptoms : suppressed or offensive lochia, objective signs on vulva or vagina, severe after-pains, retarded involution, increased sensitiveness in region of the uterus, abdominal tympanites, and exudate.

(2) Septicæmia lymphatica,—septic infection through the lymphatics (Lusk). This is probably the same as the benign puerperal fever of Parvin, and closely simulates la grippe, except that it does not have the characteristic pains in the different parts of the body, nor disturbances of the stomach, which are present in la grippe. The mortality is also much greater, the termination being most frequently death in two to twenty-one days.

(3) Infectious phlebitis, called also septicæmia venosa, phlebitis uterina, pyæmia metastatica, needs a careful differentiation. It has generally an insidious onset, but in other cases onset sudden with chill and high fever ending in profuse perspiration,—as in intermittent fever,—and then the fever becomes irregular. Pain is moderate or absent, and lochia is generally offensive. Chills occur frequently at irregular periods, followed by metastasis to various organs of the body.

Parvin diagnoses it from intermittent fever or a common cold—and we can rightly add la grippe also—by saying that in both a high temperature is followed by a decline, with more or less perspiration, and with each rise of fever the chills recur ; but in infectious phlebitis, between the *attacks*, the pulse does not return to the normal, and the chill never occurs at a definite time. The pain in infectious phlebitis being moderate or absent is sufficient to diagnose it from la grippe.

(4) Sapræmia. While this often does not produce any local symptoms, still neither does it produce pains in the extremities, and it is generally caused by something being retained in the uterine cavity.

I think the pains and soreness of la grippe alone sufficiently characteristic to make a differential diagnosis between it and any form of puerperal fever. "Rheumatic pains" in the muscles, joints, and loins are given by Strümpell as a symptom of septic and pyæmic diseases.

Now, while we exclude this case of la grippe from the different forms of puerperal fever, it still remains to be proved whether la grippe will cause puerperal fever, thereby producing the symptoms of both, or whether it will remain a distinct disease. Lusk says, "The zymotic fevers may provoke in the puerperal woman the same inflammatory lesions commonly associated with puerperal fever." Further on he says that in New York City, in 1872, during the prevalence of epizootics, of epidemic catarrhal affections, of peculiar fatal forms of pneumonia, and other diseases which are now attributed to the presence of minute organisms, "the childbed mortal-

ity increased from 400 to 500 solely from puerperal fever. The ordinary accidents of labor and the hospital mortality were not increased, and there was no special mortality from either diphtheria, erysipelas, or scarlatina, but the aggregate mortality was the greatest known." Parvin quotes a late writer as saying, "Some authors . . . assert that the poison of some zymotic diseases . . . become so changed by the condition of the puerperal state as to produce puerperal fever, . . . but it is not supported by any convincing observations. Neither have any cases of scarlatina, typhus, or typhoid fever been produced by puerperal fever." Erysipelas has been produced in rabbits from germs cultivated from puerperal fever cases,<sup>1</sup> and Schroeder says experience has taught us that fluids from erysipelas, diphtheria, and scarlet fever should be especially feared. While Duncan and Lusk could find no relation between the frequency of deaths from scarlatina, diphtheria, or erysipelas, Winckel has found that with an increase in the number of puerperal fever cases there is an increase in the number of cases having erysipelas of the genitals.

I think it very probable that when a puerperal woman is attacked by an infectious fever she first has that disease uncomplicated, locally in the genitals if it is erysipelas or diphtheria, or constitutionally if any of the others; and then septic infection at the site of the wounds in the genital tract occurs and the patient has some form of puerperal fever. Proofs: (1) Erysipelas of the vulvo-vaginal canal occurs first as a local disease,

<sup>1</sup> Winckel's Midwifery, American Text-Book of Surgery.

and frequently goes no further, but sometimes it does extend, and then we have all the symptoms of septicaemia and find the streptococcus erysipelas in all the invaded tissues.<sup>1</sup> (2) In the exanthemata occurring during pregnancy there is frequently endometritis.

The germ of la grippe is the bacillus of Pfeiffer, a specific bacillus something like that of septicaemia. It finds entrance into the body principally by the respiratory and digestive tracts, possibly also by the vagina. It has been injected into animals and produced symptoms like those of la grippe in man.<sup>2</sup>

While writing the above I did not refer to any direct literature upon the relations of la grippe to puerperal fever, because I wished to keep that separate, so it could be compared with what I have written.

Dr. Barbat<sup>3</sup> has reported four cases of la grippe following confinement.

CASE I.—Primipara, 17 years old, and married. Labor normal except laceration of perineum, which was immediately repaired. Symptoms: pain in all parts of the body, a little chilliness, and a temperature of 101° F. twelve hours after labor; temperature 104° F. thirty-six hours after labor, with slight delirium, increase of pain, and soreness over the body, but no tenderness in region of uterus, and lochia normal. Uterine curettage and irrigation were negative, but a severe chill and a rise of temperature to 105° F. followed their use, and the patient had low muttering delirium, and, later, symptoms of collapse.

Full doses of quinine and whiskey

<sup>1</sup> Winckel's Midwifery.

<sup>2</sup> Annual of Universal Medical Sciences, 1893.

<sup>3</sup> Pacific Medical Journal, March, 1894.

revived the patient, but it was over a month before she began to gain strength. During this time no local symptoms developed.

CASE II.—On the tenth day of the puerperal state the patient had malaise, pains, especially in back and head, but also in other portions of the body; temperature 102° F., slight cough, injected conjunctiva, and flushed face.

Antikamnia and stimulants were given for two days, and then the patient was able to be up but remained weak.

CASE IV.—Two days after a miscarriage at seven months the patient had backache and injected conjunctiva, but abdominal tenderness was absent. Results good. Dr. Barbat thought that possibly the premature delivery was due to the disease.

In the discussion which followed, Dr. Davis thought that the non-prominence of the cough and other bronchial troubles were due to the patients being kept within doors and in bed, and that, while he was not sure that the first case was la grippe, he thought the effects of the treatment indicated such to be the fact. Dr. De Witt had a case beginning on the tenth day. Lochia was not offensive, but was slightly increased. Dr. Kenyon said that in la grippe there was a peculiar, light, furry, silver coating to the tongue, and that he considered this a sign of considerable value, as the general symptoms vary so. Dr. Cushing thought the cases were exceptional ones, but probably septicæmia. Dr. Kuhlman claimed that la grippe required a prodromata of from ten days to two weeks. He thought these cases were from septic infection due to a diathesis, and said, "All of us

who have had any experience in obstetrics and gynæcology know that certain females who are suffering from a certain diathesis, such as tuberculosis, syphilis, and so on, manifest symptoms of septicæmia without any special reference to the lochia."

If these four cases were due to diathesis, there must have been an epidemic of diathesis in Dr. Barbat's locality. Dr. P. Gourdin de Saussure, in the *American Journal of Obstetrics and Diseases of Women and Children*, November, 1893, disproves the above statement when he says that 70 per cent. of the negroes of the South have acquired or inherited syphilis, but in over 14,000 births there were only fifty-seven deaths from puerperal fever.

The following two cases, taken from the *Annual of Universal Medical Sciences*, 1893, would tend to show that la grippe would cause septic infection.

CASE I.—A girl 19 years of age, having broncho-pneumonia, aborted, and three days later had phlegmasia alba dolens, and on the eighteenth day pyæmic abscesses in the sternal region. She was of tubercular diathesis.

CASE II.—Patient was exposed to the contagion of influenza on the seventh day after an abdominal section for removal of the uterine appendages. On the ninth day pneumonia was diagnosed, and the lower angle of the incision began to suppurate, but no pelvic symptoms. Patient died of heart failure.

Dr. Addinsell read a paper on "The Effects of the Influenza Poison upon the Lying-in Woman," before the Obstetric Society of London, April, 1893. I have been unable to obtain

this article in full, but will give below what seems to be the official report of the society, because I find the same in different magazines and journals. "He described several cases which had been under his care, and showed how they differed from puerperal septicæmia. He also cited the case of a lady who had suffered from dengue in her confinement, and its effects on the lochia and milk, pointing out the strong resemblance between this disease and influenza. He considered influenza attacked the weakest spot, and he quoted instances of several patients, seized with the disease at the time of menstruation, who suffered, and still suffer, from ovaritis traceable to that time; and he finally threw out the suggestion

that the nervous symptoms so often seen in puerperal septicæmia, and which were very marked in the most severe of his series of cases, might be due to the necrotic elements of the endometrium not being carried off in the usual lochial discharge, and thus being absorbed and carried into the cerebral circulation."

Dr. Addinsell, speaking of the effect on the ovaries, reminds me of a case. The patient had pains in the anterior part of the thighs. This is where she has pains during labor or when unwell. I at first thought she must be pregnant and about to abort, but an examination disproved pregnancy. On the next day her husband was also taken ill with the influenza.