RENAL DISEASE OF PREGNANCY AND RETINITIS ALBUMINURICA.

WITH REPORT OF A CASE.

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Many systemic manifestations of pregnancy are situated on the border line between the physiological and the pathological. Vomiting, œdema, hypertrophy of the heart, nervous disturbances, etc., are all illustrations of a fluctuating equilibrium. Still more important are the renal changes accompanying the condition, and these have, in the course of time, given rise to abundant discussion and discord; naturally enough, for no fixed line of demarcation can be traced between the normal and the pathological. Neither should this nonplus us, if we only recollect the gradual character of all fundamental transition, as between life and death, animal and vegetable, and many another.

It is granted by all that certain changes are found in the kidneys of the pregnant woman; but divergence of opinion begins the moment we ask, Are these changes organic and abiding, or merely functional and transitory? The practical bearing of the answer needs no emphasis, and yet a definite answer is not forthcoming.

Equally deplorable is the obscurity prevailing in respect to that most important result of renal disturbance—albuminuric retinitis—occurring in pregnancy.

The writer does not presume to deal exhaustively with these formidable problems. He wishes merely to report an interesting case and to indulge in a few warrantable inferences.

Mrs. Dora M., aged thirty-three years, a large, strong, and well-built woman; has been married thirteen years. The first conception took place soon after marriage. In the third month of this first pregnancy she sought the aid of a midwife, who performed criminal abortion. Since that time the patient suffered from a chronic inflammatory gynecological affection, for which she underwent repeated courses of treatment at home and abroad. Conception did not occur again for eight years, in spite of varied therapeutic measures directed to that end.

Four years ago she again went abroad, and her husband seized the opportunity for acquiring syphilis. He presented himself with

a chancre and was properly treated from the start. He has remained well, at least to all appearances.

The wife returned soon after his infection, and, in spite of all admonitions, sexual relations were resumed. What seems to be noteworthy, the woman, who had been sterile for eight years, now conceived promptly. Though she never showed any manifestations of infection, the baby was born prematurely (eight months) in a macerated condition.

She now underwent varied but irregular antiluetic treatment with mercury, potassium iodide, and iodipin internally. Conception took place promptly, and one year after the first confinement she was delivered at full term of a macerated fœtus. In view of this renewed evidence of latent disease, she submitted to a course of specific treatment by subcutaneous mercurial injections.

After an interval of some two years she conceived again, the last menstruation having begun October 20, 1902. She enjoyed apparent good health up to April, 1903, when she first complained of severe headaches. She was instructed to send her urine for examination, but, the headaches having left her in the mean time, she neglected to do so.

Four weeks later she presented herself with a train of disturbances: nose-bleed, headache, vomiting, cough, dyspnœa, palpitation, diplopia, blurred vision, and impaired hearing. She passed but little urine and noticed that it foamed on passing (a sign of albuminous liquids noted, I think, by Hippocrates). Examination revealed the presence of considerable albumin. *The excretion of urea was diminished.* With the exception of slightly swollen eyelids, no œdema could at any time be discovered.

An ophthalmoscopic examination was made on June 1st by Dr. Schapringer, of this city, and his report stated the presence of "retinitis albuminurica."

The patient was now kept in bed on a milk diet and treated with hot baths and antiluetic as well as eliminative medication. No improvement followed, the condition becoming gradually but steadily worse. Muscular twitchings in the legs appeared from time to time, and, in addition to the uræmic manifestations (headaches, vomiting, insomnia), *a right-sided facial paralysis supervened.* Under these threatening toxæmic circumstances delay was fraught with danger, and the induction of premature labor was decided upon *ex consilio.* The patient was transferred to a private hospital and interference inaugurated on the morning of June 10th by packing the cervix with iodoform gauze. Slight pains appeared during the day and some bleeding took place—a welcome occurrence, in view of the high vascular tension. Twenty-four hours after the packing the cervix was sufficiently softened to permit rapid dilatation with the fingers under chloroform anæsthesia. The hand was now introduced, version performed, and the baby extracted without difficulty.

The puerperium ran an uneventful course, and on June 25th the patient returned home.

The child, a boy, weighing three pounds and five ounces, showed no signs of syphilis. He was tentatively placed in an incubator, but did not bear the latter well and had to be removed. Surrounded by hot-water bags, he lived two weeks.

Promptly following delivery a striking improvement became evident in the mother's condition. The vomiting, headaches, and a host of uræmic complaints ceased at once. She remained sleepless for two nights, but afterward slept soundly. Her appetite returned. Vision, which had been so dimmed that she could not recognize a person at her bedside, began to clear up noticeably, and by the end of the first week she was able to read large print. She passed an abundance of urine which, three days after delivery, contained only a trace of albumin.

The improvement of vision was henceforth progressive. An ophthalmoscopic examination made on July 20th showed only traces of the former white deposits on the retina. Some astigmatism was also found. With correcting glasses vision soon became perfect.

The facial palsy participated in the general recovery. After two weeks the effaced folds reappeared, largely restoring to the face its lost expression. The eye could be completely closed in three weeks. Drinking was soon no longer difficult owing to escape of fluids from the corner of the mouth. By the sixth week nearly all traces of the palsy were gone.

Examined three weeks after delivery the urine still showed some albumin, and does so to this day. We shall come back to this fact presently.

As will be granted, the case presents several noteworthy features. First, did the woman have syphilis? At no time were there any clear manifestations of the disease. This in itself is, however, no exceptional occurrence. Says Hutchinson: "Cases are innumerable in which a young wife remains in perfect health, never manifesting the slightest indication of disease, and yet bears an infant destined to show it." Such mothers, according to Colles' law, can suckle their syphilitic infants with impunity, while a healthy wet-nurse is in danger of infection. Some alleged exceptions to this law have been recorded and advanced in support of direct parental transmission with non-involvement of the mother. In the light of recent research,[1] however, Colles-Baumès' law appears to be *unexceptionally* valid, and the mother of a congenitally syphilitic infant is *without exception* and permanently immune against syphilis, not only of her own child, but against infection from any source whatever. Now, such a lasting immunity can be acquired, as in other infectious diseases, only by passing through an actual attack, since inheritance is able to confer no more than a transitory immunity,

[1] Rudolph Matzenauer, Wiener klinische Wochenschrift, February 12, 1903.

as plainly shown, for syphilis by authentic instances of *sub partu* infection (children infected with primary sores in passing through the genital tract of the mother). It would seem to follow, therefore, that every immune and apparently healthy mother has or has had latent syphilis. Such mothers not infrequently suffer at a later date from the tertiary manifestations, thus demonstrating *a posteriori* the correctness of the deduction. The important bearing of these considerations on prognosis and treatment is obvious. We may thus safely assume that our patient has passed through actual syphilis.

This inference is not without bearing on the nature of the facial paralysis in our case. Could the palsy have been luetic in origin? It involved both upper and lower peripheral branches. There was greater involvement of the lower, however. The affected eye could not be closed voluntarily without closing the other eye, while simultaneously with the latter its closure could be partially effected. The unaffected eye could be closed singly. This "sign of the orbicularis" has been looked upon by Board as pathognomonic of central paralysis, though Jacoby has found it present in peripheral palsies, and therefore inconclusive. W. M. Bechterew quite recently[1] has also observed the sign in peripheral facial palsies, but at a later stage, as a remnant of the affection. This illustrious author has demonstrated by experiments the value of the "orbicular sign" as pointing to a cortical or subcortical lesion. Winking in our patient was unaffected, both eyes participating in the act. Taste remained unimpaired.

In discussing the probable nature of the palsy, we must consider that slight hemorrhages into the retina and nose-bleed had occurred. Moreover, the time of appearance would rather lead to a non-specific explanation. The assumption seems to be most likely that a small central hemorrhage was responsible for the paralysis. Or, perhaps, the causative lesion was a localized œdema of the brain, as happens occasionally in uræmia. Finally, the palsy may have been purely toxic in character.

We now come to the most important aspect of our case, namely, the nature of the renal affection. Was it organic or was it functional? Did we deal with a genuine nephritis or with the so-called kidney of pregnancy?[2]

The existence of a nephritis antedating the last pregnancy is rendered unlikely by the anamnestic facts: not only were none of the corresponding complaints present, but the urine had been repeatedly examined by the attending physician and nothing disquieting had been found. It is thus safe to assume that the renal disturbance originated in the last pregnancy.

The kidney of pregnancy, according to Leyden, consists in anæmia of the organ with fatty infiltration of the renal epithelium, but without inflammatory changes. Attempts have been made to

[1] Obosrenie Psychiatrii, August, 1903.

[2] Schwangerschaftsniere Leyden.

account for this anæmia by the vascular constriction consequent on reflex irritation from the pelvic organs, by direct pressure of the uterus, by mechanical retention of urine, etc. There is a growing tendency, however, to attribute the renal changes during pregnancy (together with certain changes in the liver) to the action of toxic metabolic products, the accumulated waste matter of maternal and fetal metabolism. That toxic substances are often the cause of renal lesions is sufficiently well established, and, reasoning by analogy, it is easily conceivable how in pregnancy the metabolic poisons may inflict an injury on the renal tissues. At first the impairment may be slight, but prolonged action or great intensity of the poison is likely to result in more serious damage, which may finally culminate in a true nephritis. It is quite plausible, furthermore, that the auxiliary factors mentioned above contribute their share to the result, for there is no doubt that the toxæmia of pregnancy is a complex condition. The possible cumulative effect of repeated pregnancies may be a matter of etiological speculation, as may also in our case the antecedent syphilis and the mercurial injections.

With the removal of the causes the renal insufficiency of pregnancy would naturally tend to subside or disappear, as we actually observe in many such instances after delivery. When, however, the renal lesion has become more pronounced, it is perfectly comprehensible that it should persist after the primary cause has been removed. As a matter of fact, it has long been noted that genuine nephritis not infrequently becomes superimposed on the kidney of pregnancy. Even Leyden, who considers the renal disturbance as merely functional, holds this opinion. But here, as so often, no fixed line exists between functional and organic, the interval being filled up by intermediate transitional forms.

In our case the presence of such symptoms as retinitis and paralysis would point to a graver renal lesion and render the persistence of the latter after delivery highly probable *a priori*.

This conclusion has, in fact, been borne out by subsequent observation of the patient. At the time of writing, six months after delivery, the albuminuria still persists, and the urine contains morphotic constituents indicative of renal involvement. Occasionally œdema of the eyelids is noted in the morning, and the woman complains at times of headaches, gastric distress, etc.

In view of this and the empirical observation that successive pregnancies cause more extensive retinal degeneration, future conception in our patient will have to be prevented *a tout prix*.