

## GOITER AND PREGNANCY.

BY

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## SIMPLE GOITER AND PREGNANCY.

DURING pregnancy the thyroid gland nearly always undergoes an increase in volume which remains more or less marked all through the puerperal period. According to Seitz, this increase in volume occurs in 65 to 90 per cent. of all cases of pregnancy. Out of 718 pregnant women seen by Rübsammen, 89.5 per cent. of the cases showed glandular enlargement. According to Lange, thyroid hyperplasia in pregnancy has been found in 108 out of 133 cases; when goiter existed previously, it always increased in volume during pregnancy. Von Graef examined 654 pregnant women during the second half of their pregnancy, 48.7 per cent. of them showed a thyroid enlargement. The same author examining 256 pregnant Viennese women found that 44 per cent. of them had goiter. Of course, many of these women had had goiter prior to their pregnancy. This does not disprove anything, as he then found 38.5 per cent. of these goiterous women showed a marked increase in the volume of their goiter during pregnancy and delivery. According to Freund and Lange, hyperplasia takes place sooner in multiparæ than in primiparæ; it appears in the fifth month in the former, and in the sixth month in the latter. It begins to retrocede a few hours after delivery, and keeps on decreasing in size for weeks after. The thyroid, however, never returns to its normal size. Lactation seems to be devoid of any influence over the volume of the thyroid.

The increase in volume is due to hypertrophy and hyperplasia of the parenchymatous elements; colloid and cystic nodules, when present, are only slightly involved. According to Seitz, the increase in volume is due to the action of the placental products over the thyroid. This glandular hyperplasia seems to be intended to destroy the product of auto-intoxication and changes in the serum caused by pregnancy, and it seems that women who do not show any hyperplasia of the thyroid are very apt to have albuminuria and eclampsia

afterward. The latter part of the proposition is not simply a coincidence, as Lange has shown. Indeed, if in nonpregnant cats one-fifth of the thyroid is removed, no ill effects whatever are observed, but if the cats are pregnant, the same operation causes at once albuminuria and nephritis. Thyroid opotherapy undertaken in such animals causes the symptoms to retrocede at once. Nicholson obtained the same results. The treatment with thyroid extract of four pregnant women with albuminuria and eclampsia gave very good results. Seitz, Döderlein and others believe, however, that eclampsia is of parathyroid origin. Whatever the theory may be, we must admit that thyroid hyperplasia in pregnancy is a physiological process, most likely intended to deliver the organism of waste products taking their origin in the mother and child. Perhaps, too, this hyperplasia is intended to counterbalance the temporarily lost function of the ovary.

In the majority of cases during labor, and especially during delivery, the goiter increases materially in size. Sometimes, it acquires such dimensions that bursting of the neck seems to be imminent. Dyspnea and cyanosis are very marked. It is seldom, however, that the dyspneic symptoms become such as to necessitate surgical intervention. During labor and delivery pains, on account of pressure from the goiter, the pulse in the carotids disappears; this can be controlled easily by taking the pulse over the temporal artery. Guyon considers this phenomenon as an attempt of nature to regulate the cerebral circulation. In goiters of long standing the goiter-heart is always present, and must be regarded as a bad complication. In other conditions, tachycardia may become a very troublesome and alarming symptom.

*Treatment.*—In all pregnant women, the condition of the thyroid should receive careful attention. If this gland is found manifestly enlarged or altered, and if evidence of thyroid insufficiency is found, the active principle of the gland in some available form should be administered. In that, everybody agrees. Small doses may be given and should be continued for several weeks or months.

As it has even been found that thyroid opotherapy started in the early period of pregnancy prevented thyroid hyperplasia, and as, furthermore, it has been shown experimentally that it prevents albuminuria and nephritis in pregnant thyroidectomized cats, it might be worth while to undertake a series of experiments in order to find out if it would not be advisable to feed pregnant women with thyroid extract, thus hoping to prevent some of the dreaded complications of pregnancy as albuminuria, eclampsia, etc.

In every case of pregnancy complicated with goiter, may it be simple or thyrotoxic, or both together, the wishes of the parents regarding the life of the child should always be carefully ascertained and the situation explained to them. Where children have been lost previously, and the parents are desirous of offspring, all possible means should be used to continue the pregnancy without, of course, undue risk to the mother. As soon, however, as the pregnancy is terminated, the physician or obstetrician should consider it one of his first duties to have the patient seek surgical advice and treatment in order to permanently remedy the thyroid condition.

When pregnancy is complicated with simple goiter only, no one should be unduly alarmed, the course of the pregnancy should be allowed to go on, and in the greatest majority of cases everything will terminate to the entire satisfaction of the patient as well as to the attending physician, even if during labor dyspnea and cyanosis seem at first to threaten to become alarming. If, however, on account of the goiter the patient has previously lost a child, and if the symptoms have been such as to endanger the life of the mother, elective Cesarean section should be selected.

In cases where before labor the dyspneic symptoms are marked, congestion of the cervical region with "caput medusæ" highly developed, it is logical to assume that the dyspnea will be greatly increased during labor. In such conditions, elective Cesarean section can be made before the labor pains have started. If labor and dilatation are already far advanced, pituitrin, judiciously administered, may greatly accelerate labor and shorten its duration. If dilatation is more or less complete, forceps may be necessary. If dilatation is not far enough advanced, but engagement is well started, a vaginal Cesarean section may save both mother and child. As in these cases the sole object of surgical intervention is "to do everything quickly," the induction of labor with elastic bags is, of course, to be rejected as it is a too slow and uncertain process, adds to the mother's nervousness and exposes to rupture of the uterus in delivering a child through a partially dilated cervix.

Thyroidectomy in such conditions should be very seldom undertaken as the operation is rendered extremely difficult by the enormous active and passive venous congestion of the entire cervical region; furthermore, the thyroid during pregnancy is in a state of compensatory hypertrophy, consequently it is difficult to judge how much gland should be removed and how much should be left. Thyroidectomy will be a much safer process after the obstetrical ordeal is over. Tracheotomy must be considered only as a life-saving device.



In all these cases the administration of an anesthetic is a very serious matter, and should be given the greatest care and attention, for it may prove disastrous. When necessary, surgical intervention is better made under local anesthesia.

#### EXOPHTHALMIC GOITER IN PREGNANCY.

That a woman afflicted with Graves' disease may become pregnant, or that thyrotoxicosis may develop either during, or at least, in connection with pregnancy, is a well-known fact. The point of interest does not lie therein. What we want to know is, how do these conditions influence each other, and what shall be our attitude on these given cases?

The coincidence of pregnancy with Basedow is not so frequent. Out of 15,000 women seen in the Maternity of Edinburgh by Halliday-Croom, only one case of exophthalmic goiter in pregnancy was seen. The other twelve cases which he reported were taken from his private practice, hence his conclusion is that pregnancy and Graves' disease are oftener found among the rich classes than among the poor ones. Bonnaire came to the same conclusion as out of 30,000 pregnant women he saw there were only two cases of exophthalmic goiter.

Seitz has collected 112 cases of exophthalmic goiter complicated with pregnancy from his own material, from literature, and from circular letters. He has carefully tabulated the menstrual history, the appearance of the first symptoms, the history of the previous pregnancies, the therapy employed, and the results as far as mother and child were concerned. He found that hyperthyroidism was not affected one way or the other in 40 per cent. of the cases. A very small number even improved during pregnancy. On the other hand, 67 out of 112 cases, namely, 60 per cent. of the total, were made distinctly worse by gestation. In one-fourth of these 67 patients a serious menace as to health and life was the consequence of thyrotoxicosis; 7 patients died; in 5 cases therapeutical abortion and 11 premature labors occurred; 3 miscarriages, and 3 macerated fetuses were observed. In 7 cases thyroidectomy was performed during pregnancy.

Bernard Von Beck in 260 cases of Graves' disease and pregnancy said that he felt compelled to perform thyroidectomy in 5 cases, and in no case did he find it necessary to interrupt the pregnancy. As Gellhorn says, this is indeed a remarkable record and may be explained by the fact that these thyrotoxic conditions were secondary

to previously existing goiters as in the region where Von Beck is working, goiter is endemic. Theilhaber found that the majority of coincident cases of pregnancy and Graves' disease were made distinctly worse by the disease and only the minority were improved by it. Kleinwachter and Hirst came to the same conclusion that Graves' disease is unfavorably influenced by pregnancy, and that it often has its origin in gestation. It predisposes the patients to uterine hemorrhages and may result in the death of the fetus. Such cases are often complicated with albuminuria. Whitridge Williams considers that pregnancy exerts a deleterious influence on Graves' disease; he found that tachycardia was greatly increased during gestation and lessened soon after labor.

We can consequently conclude that the majority of patients with Graves' disease are made worse by pregnancy. Pregnancy must be regarded as a serious complication in thyrotoxicosis. This is so true that Theilhaber has said, speaking of thyrotoxic patients:

"Girls, no marriage; women, no pregnancy; mothers, no nursing."

*Treatment.*—So far as Graves' disease is concerned, medical treatment should be given the greatest care and attention as soon as pregnancy is detected. Every form of treatment can be given a trial. Opothrapy with hypophysis or thymus may be attempted; opothrapy with thyroid should be handled with extreme care. Every one of these treatments will sometimes give good results, more often, none, or will make the condition of the patient worse. Up to date, the best treatment yet known is a dietetic, hygienic régime. The majority of cases so treated will be kept in fairly good condition and may be brought to the full term of their pregnancy without serious nervous disturbances. At any rate, during the early period of pregnancy, the treatment must be an expectant one. If later, however, the condition of the patient grows worse, surgical intervention then becomes necessary.

Surgically, two questions arise: Shall we perform a thyroidectomy, or shall we resort to an obstetrical operation? So far, the trend of opinion seems to be in favor of the second alternative. If the fetus is viable, a premature Cesarean section may save its life, which very likely would be lost if allowed to go to full term. If, on the other hand, the fetus is not viable and the condition of the mother is such as to necessitate surgical intervention, the life of the child should be sacrificed without hesitation, as, at any rate, it is bound to be lost anyway. In such cases, the mother's life only should be taken into consideration.

I believe, however, that we should not wait until these thyrotoxic

symptoms complicated with pregnancy have become so serious as to endanger the life of both mother and child. A timely thyroidectomy, as I have performed it twice, seems to be the ideal procedure as it not only wonderfully benefits the thyrotoxic condition, but also allows the pregnancy to go to full term, and saves the life of the child without undue risks for the mother.

Basedow patients should be guarded against marriage, and especially against pregnancy. At any rate, before entering married life they should have thyroidectomy performed in order to safeguard them against any future exacerbations and to protect their future offspring. It is true that in severe forms of Graves' disease, the chances for pregnancy are considerably reduced, because the sexual apparatus is in a state of hypofunction. This, however, is not always the case and pregnancies may occur even in very severe cases of thyrotoxicosis. When this is the case, "sterilization" of the women should be performed.