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TUBERCULOSIS AND PREGNANCY*

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It has been stated that 32,000 pregnancies occur annually in this country in women with tuberculosis. This dramatic figure may give the impression that tuberculosis occurs with extraordinary frequency in pregnancy, but it is meaningless unless it is compared with the total number of pregnancies which occur annually. Eisele and Mason examined 4,000 pregnant women fluoroscopically, and found evidence of tuberculosis in 1.06 per cent, and evidence of active disease in 0.7 per cent. The incidence of clinical tuberculosis in other reported series is lower, varying from 0 to 0.36 per cent. It thus appears that tuberculosis is hardly more frequent in pregnant women than in other young adults.

It has been noted that the onset of tuberculosis frequently dates from pregnancy or puerperium. However, Jameson, in a study of 451 married women with tuberculosis, found that the first symptoms appeared during pregnancy in only 3.5 per cent, and dated from the puerperium in only 4.8 per cent, which suggests that the chronologic association was due only to chance. There is thus no evidence that pregnancy predisposes to the development of tuberculosis.

It is well known that women may die of tuberculosis shortly after the termination of pregnancy or even during pregnancy. Mortality statistics, however, show that one out of every five deaths in women of childbearing age is due to tuberculosis, and that one out of ten is due to complications of pregnancy. Since tuberculosis has no effect upon fecundity it is quite clear that if a young married woman with tuberculosis is to die there is a distinct chance that she will die during or shortly after a pregnancy, of tuberculosis or of a complication of the pregnancy, irrespective of any effect of the pregnancy upon her tuberculous process.

No well informed physicians now believe that pregnancy exerts a beneficial effect upon tuberculous lesions. It is now known that the gain in weight is an accompaniment of the pregnancy and does not necessarily mirror changes in the pulmonary process, and that upward displacement of the diaphragm does not diminish its motility.

There are still many, however, who believe that pregnancy influences tuberculosis unfavorably, among them Potter, Carrington, and Allen. Some of them seem to believe that therapeutic abortion results in improvement of the tuberculous process. The opin-

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ions of these men are expressed without statistical backing, and apparently are derived from theoretical considerations (which Ornstein and Epstein have shown to be invalid) and from isolated clinical experiences. As long ago as 1926 the studies of Bridgman and Norwood cast considerable doubt upon the value of therapeutic abortion in pulmonary tuberculosis, and led to a change of Dr. J. Whittredge Williams' previously radical views upon this matter.

The weight of evidence now at hand regarding the influence of pregnancy upon tuberculosis points toward the opinion expressed in a recent statement by Ornstein:

"(1) Pregnancy has no influence upon the course of tuberculosis.

"(2) The prognosis depends upon the character and control of the tuberculous process."

This opinion must be reached by all who study reports regarding tuberculosis in women of child-bearing age which compare the course and mortality, over a period of years, in women who have had babies after tuberculosis was discovered, with the same data regarding women who have had no babies. Among earlier reports are those of Forssner and Barnes and Barnes; the more recent include those of Ornstein and Kovnat, Ornstein and Epstein, and Mariette, Larson, and Litzenberg. Ornstein and Kovnat report comparative mortalities of 36 and 33 per cent, and Mariette et al. re-

port a mortality of 19 per cent in 82 tuberculous women who have had babies against 39 per cent among 873 tuberculous women in the same age group who had no babies over a 19 year period. Ornstein and Epstein reported a 12 per cent mortality in 82 women who were given adequate collapse therapy and whose pregnancies were allowed to continue. Mariette et al. pointed out that all deaths in the women who had babies occurred in patients with far advanced disease at the time treatment was begun, and Ornstein and Kovnat noted that all deaths, both in women who did and who did not have babies, occurred in the caseating open cavity type of tuberculosis. These authors are of the opinion that tuberculosis is never an indication for the interruption of pregnancy, and Douglas and Henske are in agreement with them.

In the sixth edition of his textbook, published in 1933, DeLee wrote: "Most obstetricians think pregnancy aggravates the disease and internists disagree among themselves." In the eighth edition, published in 1943 he writes: "If the patient with active tuberculosis becomes pregnant, abortion is not indicated. Proper care will enable the patient to go through her pregnancy unharmed." The second sentence of this statement is a bit on the rosy side, but reflects modern obstetrical opinion that pregnancy does not influence tuberculous process.

PREGNANCY AND TUBERCULOSIS IN
THE L. S. U. UNIT OF THE
DIBERT (WHITE) TUBERCU-
LOSIS SERVICE.

During the nine year existence of the L. S. U. Unit, no pregnancies have been interrupted in patients with tuberculosis. If pregnancy existed at the time of admission, attention was directed to control of the tuberculous process, and prepatal care was supervised by the department of obstetrics. Patients discharged as quiescent or arrested cases were advised to forego pregnancy, but if pregnancy nevertheless occurred it was allowed to continue, and care of the patient became the responsibility both of the tuberculosis and obstetrical clinics. When it was possible, these patients were readmitted to the hospital before the expected date of delivery, their babies delivered in the hospital, and the patients kept in bed for two months following delivery. The method of delivery was determined by obstetrical indications.

Stage of Disease: During the nine year period there were 29 women who had babies after the date of their first admission for active tuberculosis, and whom we have been able to follow. According to the criteria of the National Tuberculosis Association, three (10 per cent) of these women had minimal tuberculosis; twelve (41 per cent) had moderately advanced disease, seven unilateral, five bilateral; and in fourteen (48

per cent) the disease was far advanced, seven unilateral, seven bilateral. Comparison with the statistics compiled from this service by Monte and Blitz in 1938 indicates that this group represents a more favorable group than that represented by all female patients admitted to the service, in which the percentages of minimal, moderately advanced, and far advanced cases were, respectively, about 2, 45 and 53 per cent.

Treatment: Of the definitely minimal cases, two were treated by bed rest alone, and one received unilateral pneumothorax. All twelve of the patients with moderately advanced disease received pneumothorax; in one case the pneumothorax was bilateral. Of the fourteen patients with far advanced disease, five were treated by bed rest alone, seven by pneumothorax, and two by thoracoplasty. Thirty-six babies have been born to these patients, of whom thirty-four are now living. One baby was stillborn, and another, a twin born prematurely, lived only a few days.

One of the mothers has died; she had far advanced bilateral disease, and was pregnant when admitted. Collapse therapy was not employed. The baby was born alive and is now living and healthy. The mother died a few months after the birth of her baby. The mortality for the entire group to this date is thus 4 per cent.

Pregnancy with Active Tuberculosis: Only four of all the pa-

tients were pregnant on admission, and the single death of the series occurred in this subgroup. Of the other three, two patients had far advanced disease, and collapse therapy was not employed. In these patients the disease is arrested at present. The fourth patient had moderately advanced unilateral disease, was given pneumothorax, and delivered twins prematurely, one of whom died. She has since had another baby, and now is apparently cured. There are thus five living babies resulting from the pregnancies of these four women.

Pregnancy after Treatment for Tuberculosis: Twenty-five patients became pregnant after they had been given treatment for tuberculosis, and in all of them the disease was considered to be quiescent or arrested when their pregnancies began. Twenty-three of them have had one pregnancy, one has had three, and one has had four. One of the babies was still-born, but the rest have survived. There are thus twenty-nine surviving babies who have been born to these twenty-five women. All of the mothers are now living, and in all of them the disease is quiescent, arrested, or apparently cured. Flareups of the tuberculous process, necessitating readmission, have occurred in four cases, but only in one did flareup occur within six months after delivery. Flareup within this period is still possible for four of the patients, since less than six months have

elapsed since the termination of their last pregnancy.

DISCUSSION

This study then may be said to have begun with twenty-nine women who had active tuberculosis. It seems to end with one dead woman, two dead babies, twenty-eight presumably healthy women, and 34 healthy children, a total of sixty-three presumably healthy persons. Actually, of course, it has not ended. Some of the women will eventually die of tuberculosis, and some of them will have more children. It is a small study, and as yet short-ranged, for eleven of these women have had their last baby within the past two years. It is also an incomplete study, for we have not been able to follow nearly all the women of childbearing age who have been discharged from the Dibert service. We have hearsay evidence that about ten more of these women have had babies, and that one of these had died. The study cannot be said to furnish additional evidence regarding the influence of pregnancy upon active tuberculosis, but it does suggest strongly that pregnancy is not harmful to women who have received adequate treatment for tuberculosis.

CONCLUSIONS

On the basis of evidence which has accumulated during the past twenty years, it may be stated that pregnancy has no influence upon the development or course of

tuberculosis. Our own experience, which reveals a to-date mortality of 4 per cent among twenty-nine

tuberculous women who have borne children, is in accord with this statement.

WATCH YOUR STEP

By FRANCIS P. DONNELLY, S.J.

"Is that you, Feet, growling in low tones? Haven't we men taken good care of you, hiring special doctors for all your ills? Look too at the shoes we put on you, not only guarding you but beautifying you for the ladies with every shape and color."

"Yes, thank you, we have been made secure and perhaps beautiful, but we were muttering about something else. Don't be startled, but while you were asleep, we Feet began to read about our family in the Bible. Have you put us in fetters of wisdom or watched us on entering the house of the Lord? Have you kept us on the right way without the strut of pride or the stain of blood? We Feet are glad to be well covered and adorned, but if we read the Scriptures aright, we should be doing good."

"You surely do startle me, dear Feet. Have you read also the New Testament?"

"Indeed, we have, and there we reach our glory. In the first chapter St. Luke told us of the Orient, the Divine Sun which directs us out of the shadow of death into the way of peace. When St. Paul bade Christians put on the armor of God, the Feet were shod with the gospel of peace. Through every line of that gospel you see us Feet walking to the bed of sickness and to the house of death. We were cleansed at the Last Supper and imparted our cleanness to the whole body. Then we started on our greatest journey for the world's peace. Then we were the Feet of God, and if we were fastened to the hard wood, it was that your Feet might forever watch their steps."

"I wish I were as good a reader as you, dear Feet. Yet I remember those Divine Feet walked at Easter and manifested the jeweled scars which I hope to follow forever." — From *For Goodness Sake*.