

medical students, for, in the words of the directors: ¹⁹ "It is to the main body of general practitioners that the public must look for personal guidance in the prevention and detection of disease." The recommendations, too detailed to reproduce here, insist that every professor in medical schools should "constantly emphasize the preventive aspects of his particular subject; this aspect should, in fact, pervade the entire medical training." Practical experience for the student in the various branches of dispensary and social work is also recommended. Refresher courses in preventive medicine are advised for the general practitioner as well as for the part-time medical officer of health.

I have made no reference to conditions in Soviet Russia, because I have never visited that country. I am told that it is the intention of the government to wipe out private medical practice and to replace it by salaried state doctors. Even now private practice has almost completely disappeared. The complete reform of medical education is of some interest. The old type of medical school no longer exists. It has been replaced by the following three faculties:

1. Therapeutics and prevention.
2. Hygiene and sanitary technic.¹⁹
3. Maternal and infant welfare.²⁰

It is the hope of the Soviet government that these new faculties will turn out doctors suited to the work they will be required to do. I offer this information without comment.

In presenting these facts about the doctor and his relation to the public in Europe today, I have tried to be as objective as possible. I have omitted many facts and may have overemphasized certain others; I do not claim to have given a complete picture. It would be dangerous to attempt to draw any general conclusions, and I propose to restrict my concluding comments to a few brief statements.

In the principal European countries today, society is recognizing to an ever increasing degree its public responsibility for the health of all classes.

The public authorities are laying increasing emphasis on the adequate provision of medical treatment as the basis of the public health.

The private practitioner is being drawn yearly into a closer relation with the government and its public representative authorities.

No difference of opinion can be held as to these facts.

This change in the relationship between society and the doctor has from time to time created friction and dissatisfaction, usually most intense at the beginning of any social or medical reform. This dissatisfaction has died down, as a general rule, with the passage of time and the introduction of modifications suggested by practical experience.

The least dissatisfaction is found where the medical profession is conversant with public social and medical problems and is united into strong but not narrow professional groups, and where the public authorities keep the doctors in touch with the purposes of their proposals.

In the countries where society has made the greatest demands on the doctor, where the old forms of private practice have most diminished and, if you will, where the socialization of medicine has made the greatest progress, the moral and material position of the doctor

has not visibly suffered. On the contrary, he is often more highly regarded and his reward is relatively greater in proportion to the heavier but more honorable social responsibilities which he has been called on to assume. "For it is true today as it has never been true before that one can serve himself only by serving the community. The social outlook and socialized behavior are demanded of contemporary man not merely, nor even primarily, on grounds of justice and mercy, but of the most self-centered and materialistic wisdom."²¹

EFFECT OF KNEE-CHEST POSITION AND POSTURAL EXERCISES ON POSTPARTUM RETROVERSION

GOODRICH C. SCHAUFFLER, M.D.

PORTLAND, ORE.

Clinical observation of the results of measures empirically prescribed to curb postpartum retroversion suggested that this empiricism might be without basis in fact. Therefore controlled observations were started.

Certain factors appear to favor the production of postpartum retroversion. The tendency toward descensus inherent in the mechanism of labor weakens the supports of the uterus and draws it down, swinging the corpus into a type of retroversion that is identical with early prolapse.

Following delivery, the uterus is normally in a position approximating first degree retroversion. Theoretically, this tendency is increased through the dorsal posture of the patient in bed, which is more or less routine. The natural tendency of the heavy corpus to drop back against the sacral promontory is thus accentuated.

Subinvolution increases this tendency. The size and weight of the congested uterus (with the patient on her back) work against the normal tendency toward anteversion exerted by shortening of the anterior uterine wall and contraction of the round ligaments. These two factors are a part of normal involution. The persistence of subthreshold infection, injury to the cervix, and retained secundines, with their resultant congestion, are factors that oppose these normal restorative mechanisms.

One would naturally suppose that a ventral posture, favoring a dropping forward of the heavy corpus, would aid the natural forces. The knee-chest position, especially, should exert an anterior tendency and also help to correct descensus. Theoretically it should not only assist the natural forces but also improve drainage and aid in eliminating congestion as well. Unfortunately, the observations in this study constitute a definite and surprising contradiction to this belief, which has been held as therapeutic dogma.

EXAMINATIONS

The examinations on which these observations are based were made according to our regimen, at approximately six weeks after delivery, by myself with the assistance of Dr. Martin S. Sichel under the Department of Gynecology of the University of Oregon Medical School. A criticism of our conclusions may be

19. Report on the Conferences of Directors of Schools of Hygiene, held in Paris and Dresden during 1930, Health Organization, League of Nations.

20. Rev. d'hyg. et de méd. sociales, Dr. A. Roubakine, March and April, 1931.

21. Fairchild, Henry Pratt: Harper's Monthly Magazine, May, 1932, p. 641, no. 984.

From the Department of Gynecology, University of Oregon Medical School.

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suggested on the ground that the reported observations are the result of a single examination. However, it was found inadvisable to use statistics from subsequent examinations for purposes of this study, since more effective measures were immediately instituted to control retroversion. I refer to replacement, the use of pessaries and decongestive measures, all tending to obscure later observations. Doubtless, in some instances, spontaneous corrections would have been noted later. It is generally conceded that, barring abnormal factors, involution and return to the normal anterior position should have occurred by the sixth week. Therefore, our report is based on examinations made at this time.

NUMBER OF CASES

I wish to emphasize, first, that 169 cases comprise a small group on which to base conclusions. It is, however, a sufficient number to warrant comment and should successfully upset dogmatic teaching based apparently on speculation and argument from analogy. Certainly there is little in the nature of controlled experiment to support current teachings.

TYPE OF CASE

The cases that constitute the basis of this study were taken from consecutive deliveries at the Salvation Army White Shield Home. The patients were nearly all vigorous young women (about 90 per cent primiparous) and presented a group practically free from complicating factors such as retroversion from previous pregnancy, prolapse, and the like. The only considerable complicating factor consists in possible congenital or traumatic retroversion. The incidence of such conditions should be equal in our test and control groups and therefore is negligible in this study.

SELECTION OF CASES AND TYPE OF EXERCISES

Patients were numbered in the order of their delivery. Alternate patients (odd numbers) were put on a special regimen consisting of the ventral posture in bed, and the knee-chest position beginning on the eighth day post partum and increasing to twenty minutes twice a day. On the eighteenth day they were started on the camel walk, and instructed to rest as nearly as possible entirely on the abdomen while in the prone position. Conservative abdominal exercises in the upright posture were also prescribed. As far as possible, these procedures were supervised. Naturally, some patients were less faithful than others, but on the whole it would be difficult to obtain a better regulated and supervised group.

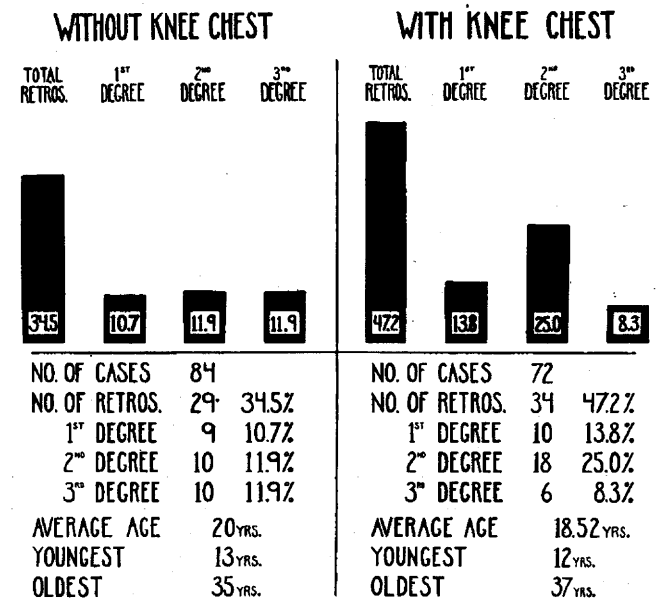
The even number patients were given no exercises whatever, and no instructions in regard to prone posture, and were directed not to undertake any such measures on their own initiative.

EFFECT OF KNEE-CHEST POSITION

The accompanying chart shows that the incidence of retroversion following the use of the knee-chest position has been 47.2 per cent as opposed to 34.5 per cent in the cases in which the knee-chest position was not used. There is room for a certain variation due to chance in as small a group of cases as this. However, there can be no question that the value of such exercises as described has been in the past vastly overestimated. Perhaps it is unfair to conclude from this series that the use of the knee-chest position actually increases the incidence of postpartum retroversion. On the other hand, the confidence that has always been placed in it as a therapeutic measure is no longer justifi-

fied. It seems fair to conclude also that, since in this type of case postural exercises should be the most effective mechanically, owing to the heaviness and size of the corpus, the use of the knee-chest position in other types of retroversion would be even more futile.

If one chooses to put implicit confidence in these figures, then one must search for factors in the use of such exercises that might actually retard involution and favor retroversion. It is conceivable that the trauma due to early movement and disturbance of the pelvic structures with possible retardation of circulatory rehabilitation might act in such a way. It is quite possible that the natural forces of reconstruction may work better with the uterus in the vertical position, splinted by the sacral promontory, than under circumstances in which it is frequently teetered forward into an anterior position (perhaps unphysiologic at this time). As an analogy may be cited the potential harm in too early attempts to obtain complete flexion in an



Effect of knee-chest position on postpartum retroversion.

injured joint. These are merely speculations, but they may have some bearing on our rather surprising results.

We feel added confidence in the result of these studies from the fact that check figures during the eighteen months taken for the experiment showed a constantly higher number of retroversions following the use of the knee-chest position. This should eliminate the possibility of a temporary variation due to chance.

The percentages that I have mentioned have been for the entire group of retroversions. It is of interest to note that the majority of retroversions have been second and third degree. This definitely establishes the fact that our observations are not influenced by a large group of borderline cases. If a large majority of these cases had been first degree retroversions there would be considerably more doubt as to the significance of our results. It will be noted in the chart that there is an incidence of 25 per cent of second degree retroversions following the use of the knee-chest position as opposed to 11.9 per cent in cases in which the knee-chest position has not been used. This discrepancy is even more marked than that in the total group. Since the second degree retroversion may be considered the average or the mean of the entire group, these comparative per-

centages lend some strength to the hypothesis that there may be factors in the use of the knee-chest position actually antagonistic to normal involution and anteversion.

The percentage of retroversion in this entire group, including tests and controls, is in general accord with other figures for similar groups. I have not, however, found any other critical studies covering this particular field and therefore think these observations worthy of note. Further study in the same field is indicated.

SUMMARY AND CONCLUSIONS

1. Alternate patients (odd numbers) in a group of 169 deliveries were put on knee-chest position and postural exercises, whereas alternate patients (even numbers) were not given such measures.

2. Examination after six weeks revealed a substantially higher incidence of postpartum retroversions in the group subjected to the so-called corrective measures.

3. It is fair at least to conclude that the use of such exercises does not justify the confidence which has formerly been placed in them.

4. It seems wise even to seek for factors in the use of such exercises that may actually retard the tendency toward involution and return to the normal anterior position.

802 Medical Arts Building.

Clinical Notes, Suggestions and New Instruments

CIRRHOSIS OF THE LIVER CAUSED BY CARBON TETRACHLORIDE

WINFIELD L. BUTSCH, M.D., NEW HAVEN, CONN.

Carbon tetrachloride has a widespread use with apparently little attention accorded to its danger as a toxic agent. Out of this neglect has appeared a case of cirrhosis of the liver similar to the experimental cirrhosis produced in dogs by the same substance. Although there are numerous records of acute yellow atrophy caused by carbon tetrachloride, no instance of liver cirrhosis has been reported in the literature.

The poison was assimilated by the patient through inhalation while at work. Lamson¹ has produced a similar effect by immersing dogs in a concentrated vapor of carbon tetrachloride repeatedly over a period of one month. Autopsy of the animals showed the liver lesion to be one of healing central necrosis with stellate areas of collapsed framework about the hepatic veins. The adjacent liver cells in a wide band contained fat droplets.

Bollman and Mann² in their work on experimentally produced lesions of the liver demonstrated that, with repeated sublethal doses of carbon tetrachloride, increasing injury to the livers of dogs resulted in the production of most of the symptoms characteristic of portal cirrhosis. Gastro-intestinal upsets, diarrhea and intestinal hemorrhages were the first symptoms observed. The excretory function of the injured livers was marked by a definite retention of dye.

REPORT OF CASE

An American laborer, aged 54, entered the hospital with complaints of a large abdomen, morning nausea and weakness. Six months previously he had been transferred to a position requiring the cleaning of old telephones with a solution containing 60 per cent carbon tetrachloride and 40 per cent gasoline. This was done in a poorly ventilated room, where the fumes

arising from the cleaning solution were unmistakable. He found himself frequently giddy with an aching head toward the close of the day, and often nauseated when he returned home for the evening meal. After he had been at this work for two months, a period of intractable diarrhea which lasted three weeks occurred and his abdomen began to increase in size. Five weeks before admission he developed morning nausea and weakness, accompanied by loss of sexual libido. A dry irritative cough appeared with small amounts of stringy, whitish sputum. All the other men engaged at this work developed symptoms of nausea, dizziness and lack of appetite, and asked to be transferred from time to time. The patient remained on duty.

The patient was large, well developed and well nourished. His complexion was pale. He did not show prostration. The positive observations were limited to the abdomen, which was enlarged and globular with dilated veins coursing over its upper half. Shifting dulness was noted in the flanks, accompanied by a fluid wave. The liver and spleen were not palpable at the time.

The positive laboratory observations of especial reference to this case were as follows:

Van den Bergh test: direct, negative; indirect, 1.1 mg. per hundred cubic centimeters.

Bromsulphalein function test: 50 per cent retention at end of five minutes; no retention at end of thirty minutes.

Blood fat: admission, 1,245 mg. per hundred cubic centimeters estimated as tripalmitin; three weeks later, 765 mg.

Serum cholesterol: admission, 856 mg. per hundred cubic centimeters; three weeks later, 563 mg.

Again the work of Mann on dogs proved to be of great value in suggesting the treatment of the case. In dogs in which ascites developed after experimentally produced cirrhosis, Mann was able to induce the absorption of the ascites with restriction of meat and the feeding of large amounts of carbohydrates. He then could almost at will cause alternately the formation and removal of ascitic fluid by alternating these two foods in the diet.

Accordingly, the patient was placed on a high carbohydrate diet with restriction of all meats. Urea produced a moderate diuresis. At the time of discharge, one month later, he had regained his libido and felt stronger. His abdomen had decreased in girth from 42 to 40 inches. At no time did the patient have a febrile temperature or evidences of clinical jaundice.

He returned for observation at monthly intervals.

One month later he was back at work with his strength returning very slowly. No shifting dulness was noted. The liver and spleen were not palpable. His appetite was poor. Dilated veins were still prominent.

Two months later he felt somewhat stronger though the cough persisted. The liver was palpable 4 cm. below the costal margin in the midclavicular line. He was allowed meat twice a week. The blood fat was 702 mg. per hundred cubic centimeters.

Three months later he felt much stronger and his appetite had improved. The abdominal veins were much less prominent. The liver was palpable 2 cm. below the costal margin. The spleen was not palpable. The abdominal girth was 39 inches. He was allowed meat every other day.

Four months later he was feeling strong enough to work in the garden in his spare time. His appetite was good. The liver was palpable at the costal margin. His abdominal girth was 38½ inches. Since discharge, his weight had remained stationary at 180 pounds (81.6 Kg.). The blood fat was 497 mg. per hundred cubic centimeters.

COMMENT

Although there was no conclusive evidence in this case of a cirrhotic liver, it seems reasonable to presume the diagnosis to be correct in view of the characteristic symptoms and the signs of portal obstruction following close on the exposure to carbon tetrachloride.

In connection with the lipemia, it is interesting to note the observations in a case reported by MacMahon and Weiss,³ in which an autopsy was performed in a case of acute yellow atrophy in which the patient died five days after the accidental

From the Medical Service of the New Haven Hospital.

1. Lamson, P. D., and others: Bull. Johns Hopkins Hosp. 36: 107 (Feb.) 1923.

2. Bollman, J. L., and Mann, F. C.: Ann. Int. Med. 5: 699 (Dec.) 1931.

3. MacMahon, H. E., and Weiss, Soma: Am. J. Path. 5: 623 (Nov.) 1929.