PROBLEM OF CHRONIC RHEUMATISM*

BY

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The following data is from the National Health Survey of the United States Public Health Service of 1937, revised in 1939:

" There is an ever-growing concern in the United States over the problems presented by chronic disease. This concern has, in part, resulted from the belief that the problems of chronic disease, or of certain chronic diseases, is increasing. Whether or not there is any increase in the prevalence rate at any given age, it is certain that the total volume of chronic disease is growing from year to year, since older persons, among whom chronic disease is more prevalent, are constituting a larger and larger proportion of the population. If the statement is accepted as valid—that the greatest need for action in the field of public health is where the greatest saving of life and prevention of suffering can be made—then, without doubt, the chronic diseases merit the attention they are receiving." [1]

Chronic Disease

The " reports are based on a house-to-house canvass of some 800,000 families including 2,800,000 persons in 83 cities and 23 rural areas in 19 states ".[2] " It is estimated that 23,000,000 persons, or more than one person in six in the United States have some chronic disease, orthopaedic impairment or serious defect of hearing or vision. By reason of these disorders almost a billion days annually are lost from work or other usual pursuits and a minimum of 1,500,000 persons are disabled for such long periods of time (twelve months or more) that they can be considered permanent invalids." [3]

" Chronic disease is far from a problem of old age alone. Half of the persons in the Survey for whom chronic disease or impairments were reported were under 45 years of age, and over 70% of these persons were under 55 years. Over half of the persons permanently disabled, and almost 30% of the persons who died from chronic disease were under 55 years of age." [4]

" The onset and sometimes periods of remission and recrudescence of symptoms characteristic of chronic disease make it difficult to distinguish between normal health and the milder forms of ill health. In the house-to-house canvass made by the Health Survey, two states of ill health were reported: disabling illness which had kept persons away from work, school, or other usual pursuits for seven consecutive days or longer during the twelve months preceding the day of the canvass." [5] " A chronic disease was considered to be a state of ill health, if in the opinion of the informant it was handicapping." [6] " The most prevalent chronic diseases are: (1) rheumatism, (2) heart diseases, (3) arteriosclerosis and high blood pressure, (4) hay fever and asthma. The outstanding cause of disability (expressed either as the number of days lost or as the number of persons permanently disabled) is nervous and mental diseases, with rheumatism second and heart diseases third, followed by tuberculosis, and arteriosclerosis and high blood pressure." [7]

It is evident, therefore, that rheumatism is first in numbers, second in disability, and fourteenth in mortality, while heart disease is second in frequency, third in disability, and first in mortality. It is estimated that there are 6,850,000 rheumatic cases in the United States, causing a loss of 97,200,000 days of work. It is estimated that there are 147,600 invalids and only 4,400 deaths from rheumatism.[8]

At the end of the World War 1914–18 the United States Army estimated it had 60,000 chronic arthritic cases annually, and, of " the ex-service men, 35,000 are disabled by arthritis at the present time (1939) and receiving compensation to the extent of 10 million dollars annually ".[9] Comparing these figures with nervous and mental diseases, we find that there are about 2,000,000 cases but it has been estimated that about 10,000,000 more will be under treatment during their lifetime.[10] It is estimated that 132,500,000 work days are lost annually through nervous and mental diseases. It produces 269,300 invalids, and the mortality is 22,900.[11] It is estimated that it cost the country 500,000,000 dollars.[12] These figures are staggering, and leave us no alternative but to find a way to stop this wastage. What many of us in America are realizing is that we must find some way for people to live successfully in a social and emotional environment which will prevent chronic disease. This is why we doctors, in the United States, are concerned about rheumatic disease. In 1928, therefore, the American Committee for the Study and Control of Rheumatic Diseases came into existence as a member of the " Ligue Internationale contre le Rhumatisme ". Through it was born the American Rheumatism Association, with an increasing membership since 1936. Most encouraging progress has been made, especially in the greater attention now paid to the problem in the medical schools. A number of special clinics for research and hospitals devoted to the care and study of patients with

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rheumatic diseases has resulted: the methods of treatment have been better evaluated, and a fuller understanding of the basic nature of rheumatic diseases is being realized. Much still remains to be accomplished. In the United States we feel "that significance attaches to arousing in the public mind appreciation of the disease as a social problem, the value of adequate treatment in the early stages, and the importance of providing adequate institutional care"[13] in all stages of the disease.

Aetiological Theories

If we only knew the exact cause it would be much easier. In the majority of cases the aetiology cannot, as yet, be definitely determined. In the *Primer on Arthritis*,[14] published in 1942 by the American Rheumatism Association and the American Medical Association, we have divided the cases into five groups: (1) frankly infectious cases caused by specific organisms such as syphilis, gonorrhoea, pyogenic cocci such as haemolytic streptococcus, pneumococcus, and the staphylococcus, (2) probably infectious, the aetiology unknown, such as rheumatic fever and rheumatoid arthritis, including Marie-Strümpell and Still's disease—the infective agent has not been found ; (3) degenerative joint disease, or osteo-arthritis—we believe this is a degenerative process ; (4) arthritis due to physical trauma ; (5) arthritis, or gout, commonly defined as a disturbance of purine metabolism, origin unknown.

There are two schools of thought regarding the aetiology. Firstly, there is the school which considers rheumatism to be the direct result of bacteria, either by infection or by toxins: at the moment we have no proof one way or the other. Secondly there is the metabolic theory, such as protein and carbohydrate metabolism, vitamin deficiency, or endocrine disturbance.

To quote from the *Primer*:[15] " various factors such as climate, fatigue—emotional strain—trauma, or acute infections, may precipitate the initial or recurrent attacks of rheumatoid arthritis, but they cannot as yet be accepted as causative agents".

"The cause of rheumatoid arthritis being unknown, students should continue to search for hitherto undetected metabolic factors as well as organisms."[13]

"It seems probable that the disease affects primarily the ground substance of the mesenchyme" existing in the interstices between cells and fibres of mesenchymal origin.[16]

"In many instances the initial complaints are those of fatigue, exhaustion, lassitude, vasomotor disturbances, numbness and tingling in the extremities, loss of weight and general debility."[17]

In a certain proportion of cases the disease appears to follow an upper respiratory infection: "in other cases such events as emotional stress and strain, severe nervous shock and various psychic traumas appear to exert a precipitating influence".[18]

Treatment

I know of no cure for rheumatism. However, I believe rheumatic diseases can be controlled, first by improving the general health. We in America believe in rest as the most important measure in the treatment of disease. The rest should be complete: rest for the body, preferably in hospital, for at least six weeks, if necessary longer, and I, personally, believe hospitalization is important in order to get people away from home and to make a complete change for the patient, giving him a breathing space from the environment in which he became ill. I also believe that local rest in splints, under constant orthopaedic supervision is imperative. The medical and orthopaedic service must work as a team, in complete agreement as to the policy in each case.

Every effort must be made to maintain the nutrition at its highest point by a well-balanced diet, taking into consideration the vitamin deficiency found present. There is no specific diet that we know of. We have also found small, frequent transfusions of great help in getting our debilitated patients started. I believe that splints relieve pain, and it is necessary at times to use sedatives, in order to relieve strain and suffering. Heat and sunlight are a help, and relieve the patient of the necessity for meeting climatic conditions, which vary a great deal in certain parts of the United States. We find the disease rare in the tropics, and less frequent as we go south. I believe that the conservative removal of the focus of infection, wherever it is possible without detriment to the patient, helps in lightening the load while we build up general health.

It is essential to prevent deformities, particularly postural defects, which we, in America, consider tremendous handicaps in the normal functioning of the viscera, and so a handicap to the recovery of the general health. We feel that this is as important as rest. Personally I believe that most of the deformities of rheumatoid arthritis are unnecessary if anticipated and adequately splinted and cared for by rest, heat, and judicious exercise early.

Quoting from the *Primer*: "The importance of psychic factors in rheumatoid arthritis is great". The attitude of the patient to his emotional environment, to the atmosphere of his home, especially to the problems of his life, is of vital importance, particularly the relationships with members of his family and those at his place of work. I am increasingly convinced that the way he reacts to the people about him, positively or negatively, is one of the most important single aetiological factors in the understanding and treatment of rheumatoid arthritis. This belief is due to having seen the most amazing improvement in patients where home relationships have been straightened out, particularly resentment and fear. The loss of happiness and security are vital to the health of these chronic cases. If only two methods of treatment were available to me in treating rheumatic diseases, I would choose first to create sound home relationships, and second, to develop a sound body through correction of posture and the development of proper circulation by exercises.

A woman of forty came to the hospital sent by her town. She had a severe rheumatoid arthritis which had crippled her hands and her legs. For the first three

weeks she did very well and seemed happy. Then she began to be sick to her stomach after breakfast. This continued for a week and she seemed to get worse; many of the joints became swollen. As we could find no physical cause for this, I spent two hours with her one evening and discovered she had developed a tremendous resentment amounting almost to hatred of the woman in the next bed, who had many visitors during visiting hour while she had none. During the three weeks this resentment had increased day by day until she would not speak to the other woman. She was scarcely conscious of how deep this resentment had gone, but when she saw that emotions of jealousy, envy, criticism, hatred, were real sin and were against the teachings of her religious belief, she became greatly convicted of wrong thinking and decided to change; having confessed to me, she asked forgiveness of God and apologized to the woman in the next bed. She felt so much better the next day that she apologized to the whole ward, which she had been upsetting by her bad temper, and then proceeded to go round in her wheel chair straightening out the problems of other people who would not eat their meals or do as they were told. That ward had the best Christmas it had ever had. A few months later her husband came in, stating that she had never had any friends at home because of her " grouch ", and that she had been having him come home from work every two hours to see how she was until the home relationships had been greatly strained. Now she had the house full of people whose troubles she was unravelling, and it was the best investment the town had ever made. She wrote me that she was perfectly happy to be in a wheel chair, her arthritis no longer hurt her, and she had found her real job in life, helping other people. This was only an example of many cases of which I have records which show that a change of heart has a tremendous effect on the recovery from arthritis.

Other methods of treatment with which we are experimenting in the United States may be of interest: of how much value they are remains to be determined.

CHRYSOTHERAPY

The use of gold salts has long obtained considerable vogue, in France and England. " At the present time they are being given wide therapeutic trial in the United States." [19] We feel, to quote the *Primer* again: " that the results, as far as cures are concerned, are far from miraculous, but in view of the large number greatly relieved, a continuance of the trial of this form of treatment, under controlled conditions, is both desirable and justifiable ".[20]

Lately many of us in the United States have changed our method of using gold. The changes have been based on the researches of Dr. Richard Freyberg, formerly of Ann Arbor, who showed that gold was excreted very slowly, and often remained in the body for six months after the last injection. I have, therefore, been giving 10 mg. twice in one week; then 25 mg. for two injections, a week apart: then 50 mg. once a week; never giving the 100 mg. that we used to give, but continuing 50 mg. up to 1 or 1½ g. of gold salts. At the end of this series, we have continued with 25 mg. every two weeks, and then once a month for an indefinite time. This seems to have given more satisfactory results. It decreases the toxic symptoms, and the dangers of gold therapy and recurrences are fewer.

VITAMIN THERAPY

I feel that vitamin therapy, over a long period of time, does have a beneficial effect, and that many cases are borderline vitamin deficiency cases. On both coasts of America reports have been published which coincide with regard to vitamin C, which has been found to be deficient—according to blood tests at the Robert Brigham's hospital and at the University of California—in about 60% of the cases studied. I find that the rheumatoid arthritis cases with a low blood vitamin C require three times as much synthetic ascorbic acid to bring the blood level to normal as was required in the non-arthritic. Vitamin A was found to be deficient in about 80% of our hospital cases, according to the biphotometer tests. Recently we have been doing much work on the vitamin B complex in its component parts; using the tongue as our guide to the deficiency. Remarkable changes have taken place in the appearance of the tongue when this therapy was properly carried out. My own conviction is that the use of vitamins A, B, and C, must be carried out over years in order to undo the effects of many years of sub-clinical deficiency before we can estimate its value. There has been much controversy over vitamin D in massive doses. To quote the *Primer* again: " Large doses of vitamin D should be regarded as of doubtful, if of any value ". As yet we do not know how long to continue vitamin therapy, or the size of the doses which are needed; all we can go by is the clinical picture of returning health in those patients; we have not felt justified in using this treatment alone.

Dr. Francis Hall of Boston has shown that certain arthralgias, caused by castration and at the menopause, resemble the pain of rheumatoid arthritis and are quickly relieved by the use of oestrogens.[21] Many cases of real rheumatoid arthritis apparently are also benefited by this treatment, of course as a supplement to the general care which I have outlined. It is, however, an important lead to be followed up.

X-RAY TREATMENT

I find that most rheumatologists are now using *x*-ray treatment in Marie-Strümpell arthritis. Some in America consider this disease a rheumatoid arthritis; there are others who strongly believe that it is a separate entity. I think I can say that the opinion is that *x*-ray treatment is the most curative agent we have at the present time, and this, in combination with the prevention of deformity by the use of specially fitted plaster jackets, [22] or strong, light, body braces to control the posture, have given the best results in restoring these people to health. The way we use the *x*-ray treatment is to plot out areas of the spine and hips, if these are involved, and give exposures in series, three times a week until twelve treatments have been given; after three months' rest, depending on the activity of

the disease, we repeat the series. Sometimes three series are given within a year. We have found that the improvement has been progressive in most cases. In some there has been complete freedom from signs and symptoms at the end of a year, and there is no question but that the posture, if treated early with jackets, can not only be maintained but corrected. Sometimes the simple rest of the back in jackets has seemed to arrest the disease. It certainly has made life much more bearable and has allowed young men to continue at work even in the Army, which would have been impossible without jackets.

Psychosomatic Aspects in Rheumatoid Arthritis

There has been increasing interest in the psychosomatic aspects of rheumatoid arthritis. Many clinics are studying this from many angles, and it seems that " the psychic factor in this disease is great ". In my own clinic I find that 70% of the onsets and exacerbations were traceable to emotional disturbances, largely due to relationships at home—to the type of emotional reaction which the patient had developed towards people. The two primitive emotions of resentment and fear were found to be most important, and it is vitally important that the arthritic and his family should learn to live together harmoniously. Sometimes the patient was a menace to the home; sometimes the atmosphere of the home was the cause of his resentments. These experiences over the past ten years have led me to suspect bad relationships and search for the answer. The correlations are far more frequent than can be explained by coincidence.

The Problem of Chronic Disease

In studying the whole subject of chronic disease, I believe that the atmosphere of the home is far more important in cases of nervous and mental disease, in functional heart trouble, in asthma, and in gastro-intestinal diseases than we, at the present time, realize. The figures I presented at first have shaken me out of my lethargy. "Twenty-three million persons, or more than one person in six, in the United States have some chronic disease. One billion work days lost from chronic disease ! One million, five hundred thousand invalids from chronic disease! " It is unbelievable but true. As a result of this appalling situation many physicians are beginning to feel that it is a hopeless task to treat this number of cases, that we shall never catch up with the production. Some of us believe that we must think and plan in a new way: that we have been so preoccupied with the fascinating study of disease that we have forgotten the individual who is ill, bodily, mentally, and spiritually in many cases, and have, therefore, failed to appreciate that many illnesses are really due to the way life is lived in our homes, producing an atmosphere where health or illness is the inevitable by-product: and that in many instances chronic disease is inevitable unless change and team-work can be instituted in the home.

The problem of chronic disease necessitates a new kind of responsibility from us physicians to direct people to a new inner discipline and moral standards. Dr. Thomas Parran, Surgeon General of the U.S. Public Health Service, in his book " Shadow on the Land ", reports that there are about six million people suffering from the effects of syphilis in the United States.[23] It is, therefore, second to arthritis in frequency. It is clear that the answer is not in new drugs but in moral living. Every day in America seven million people are unable to work because of illness. It is stated that one third of this is preventable. Somehow our civilization has lost its ability to live the kind of life which will produce robust health. Even with more doctors, more hospitals, more research, more drugs, we cannot cope with the advance of chronic disease at present. To many people freedom has come to mean the liberty to do anything they want, not the glad spontaneous desire to do as they ought. For many there is no great integrating force in their lives which gives emotional balance and physical and moral discipline: therefore the broken homes and a continuing casualty list of insecure, fearful, confused, and emotionally disturbed people and chronic disease. If medicine is to fulfil its destiny, I believe it must help people to find this force which will change them and give them the security they need for the attainment and preservation of their individual health and a way of living which is physically, emotionally, and morally sound. If the profession could do this on a national scale, it could help produce a nation of sound homes and a health programme for the world.

My thinking was limited by the idea that human nature was unchangeable. This is a false premise. To me it has been the startling discovery that human nature can be progressively changed, and this type of change has had surprising results in many of my rheumatic cases, as I reported in my presidential address to the American Rheumatism Association in 1942.[24] This fact makes available an undreamt-of therapeutic force for bringing health.

We live now in a new age where the speed of disaster threatens to make our scientific advances a mockery. I discovered that I needed a new caring, a new sense of responsibility, a new philosophy for my medicine if I was to secure adequate help for my patients. This holds true for the millions with chronic disease. For health is not based on economics, but on morals, the way we live. It is not what we have, but what we are. And it is not so much where we live as how we live. Health begins in the home. In the light of these facts, may we physicians not initiate a new medical era by taking responsibility for the homes as well as the patients and showing them how to live with the inner discipline they need and the inner liberty they desire. Total fitness will come as a by-product.

The British Medical Association has recently created the machinery necessary for international teamwork in the promotion of world health. I congratulate Britain on this great step forward. For, as physicians, it is up to us to carry the world on our

hearts and heal it. It has become a patient with a chronic disease.

In conclusion I wish to repeat my convictions that rheumatic disease and chronic disease in general is profoundly affected by the way of life and thought of the individual and his community. The prevention and cure is an integrating constructive ideology, which alters the reactions between people and changes attitudes, leading to sound relationships at home, sound habits, and a new sense of direction and responsibility. We doctors have had a passion for disease. Now we must have a greater passion for health. I have found there is a divine force capable of changing human nature and the world if we choose to use it. It has changed my approach to the practice of medicine. Just as it has in my experience been the deciding health factor in many cases of chronic rheumatic disease, it will be the deciding health factor when applied to the state of chronic illness of the world to-day.

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FIG. 4.—The Rheumatism Hospital, Nynäs.

FIG. 6.—The Rheumatism Hospital, Åre.

FIG. 5.—The park of the hospital, Nynäs.

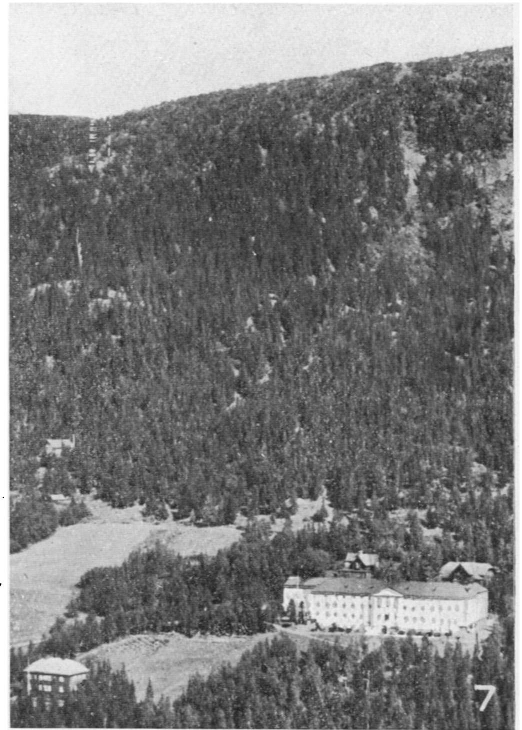

FIG. 7.—The Rheumatism Hospital at Åre, from the air.

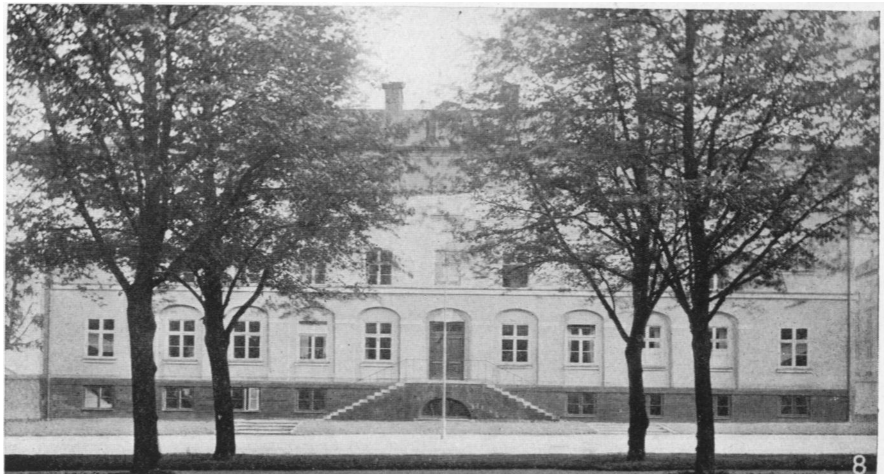

FIG. 8.—The Rheumatism Hospital at Norrköping.

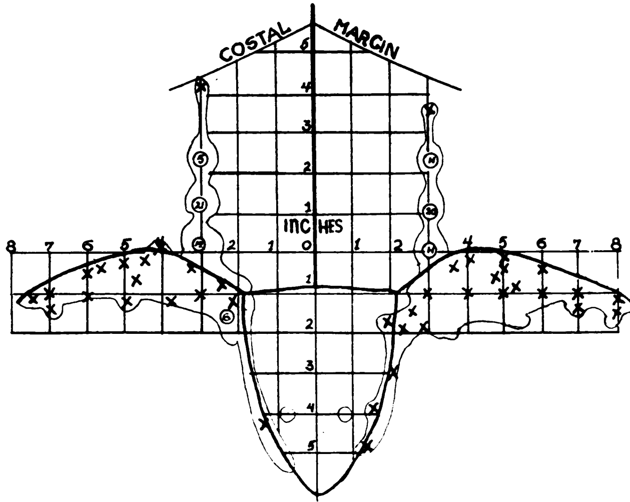

FIG. 1.—Situation of "trigger points" of pain (from Copeman and Ackerman).

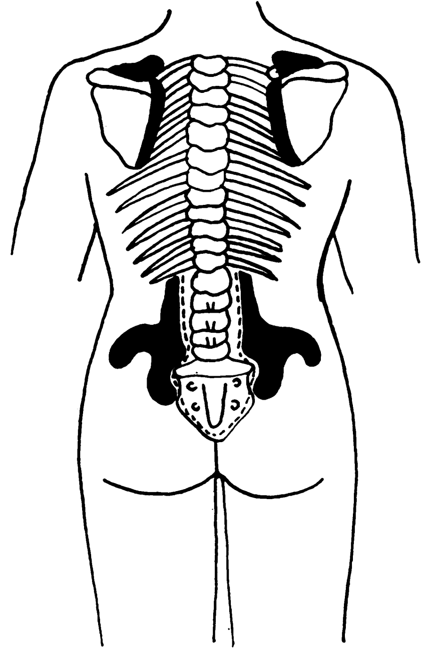

FIG. 2.—Basic fat pattern in the lower back (from Copeman and Ackerman).

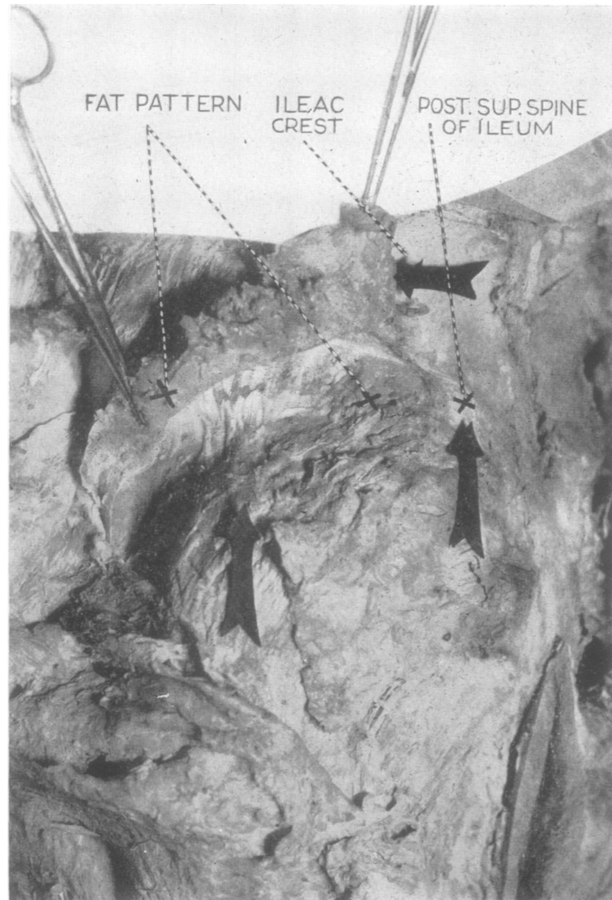

FIG. 3.—Situation of basic fat pattern in relation to the gluteal muscle as shown by dissection.

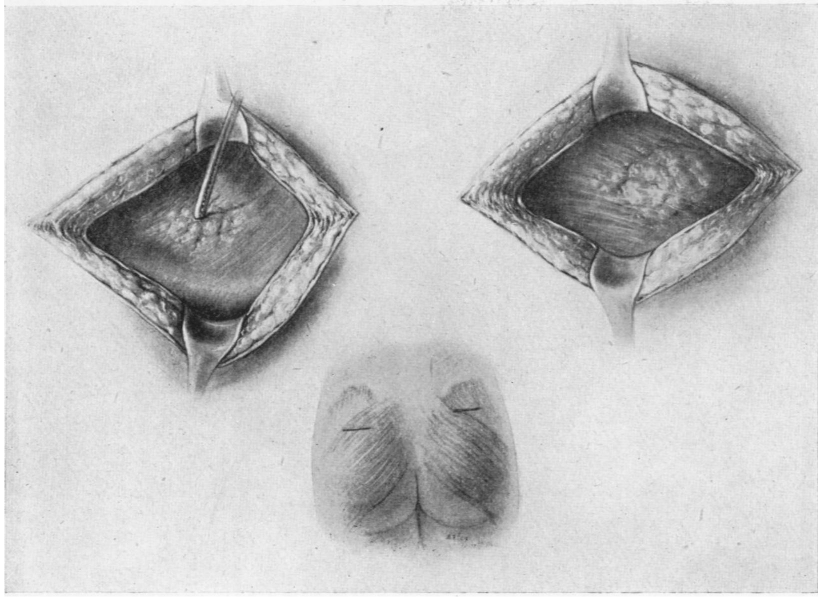

FIG. 4.—Technique of operation for removal of bilateral subfascial fat herniae.

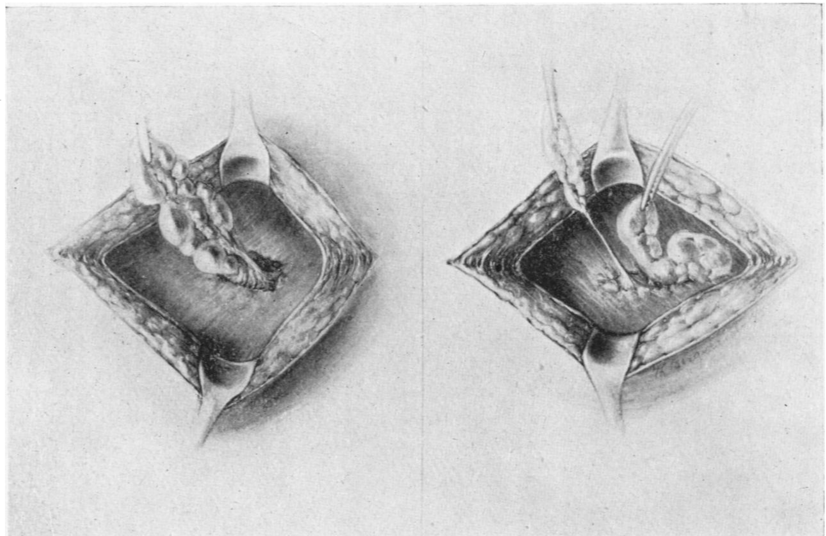

FIG. 5.—Technique of operation for removal of bilateral subfascial fat herniae—*continued.*

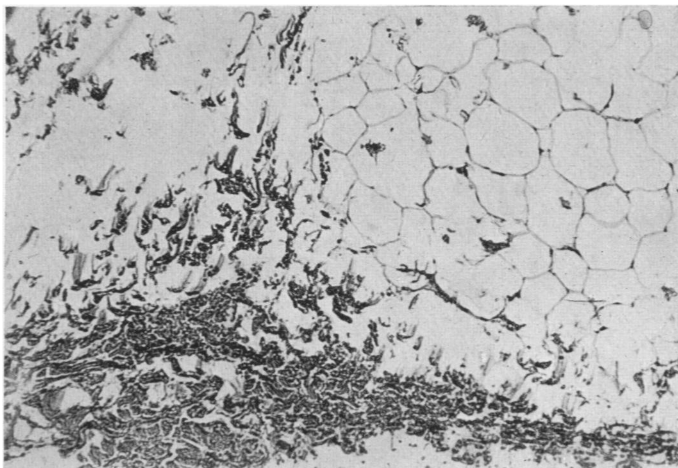

FIG. 6.—Photomicrograph of herniated fat.

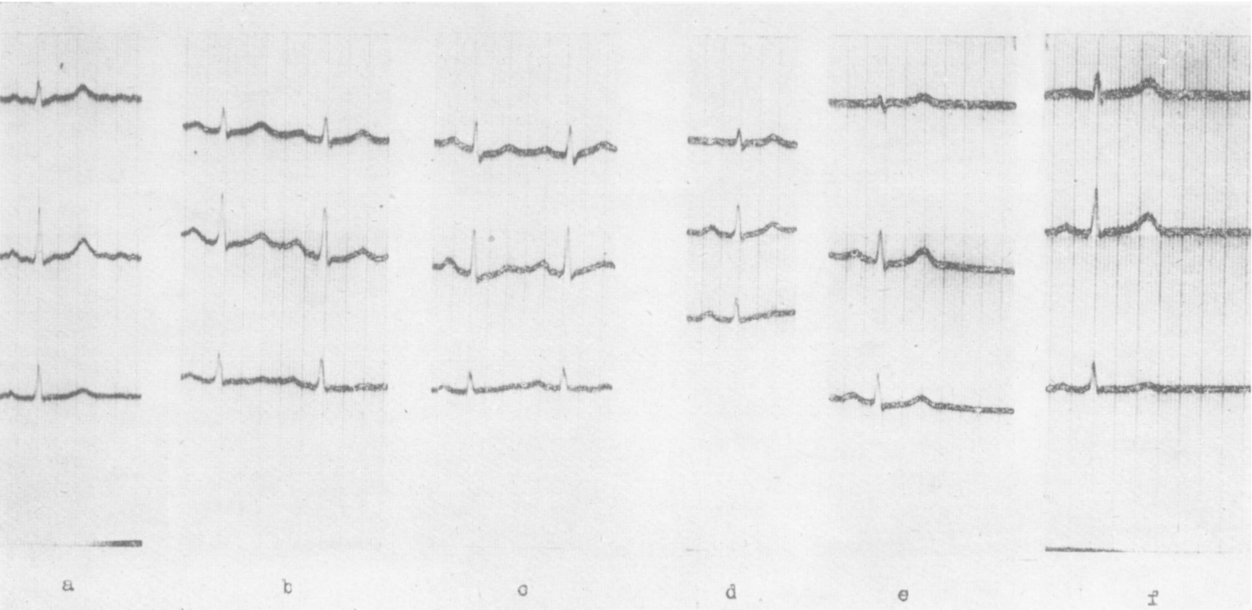

FIG. 3.—Variations of the electrocardiogram during and after a Sauna bath. Male patient, aged 25, after poliomyelitis. The heart and circulation were clinically normal. All electrocardiograms were made in the recumbent position. The duration of the hot-air bath was 13 minutes. The air temperature was about 75° C. (167° F.).

(*a*) Before Sauna bath. Heart rate 71; blood pressure 105/70 mm. Hg.

(*b*) Three and a half minutes in the hot-air room. Heart rate 120.

(*c*) Eleven minutes in the hot-air room. Heart rate 123; blood pressure 125/60 mm.

(*d*) Two minutes after leaving hot-air room. Room temperature 20° C. (68° F.). Heart rate 107; blood pressure 110/50 mm.

(*e*) Four minutes later, immediately after cold douche. Heart rate 61; blood pressure 105/55.

(*f*) One hour after hot-air bath, patient lying in bed. Heart rate 59; blood pressure 105/70 mm. Hg.

Note the elevation of P_2, depression of ST and flattening of T_2 in (*c*): typical sympatheticotonic variations, disappearing after the cold douche. (From Ott, *Die Sauna.*)