

the People's Doctor

A MEDICAL NEWSLETTER FOR CONSUMERS
by Robert S. Mendelsohn, MD

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Tuberculosis and Isoniazid



**Dr. Robert
Mendelsohn**

For many of us, tuberculosis is what Puccini's Mimi coughed softly from in her garret or what Thomas Mann's characters suffered from on their lofty heights on "The Magic Mountain." For most of us alive today, TB exists only in opera and literature--it is not a disease that we see or that we hear about others having. Yet invisible as this once highly-contagious disease has become, it still exists in the world of medical diagnosis. As Marian Tompson points out in her column, 27,000 cases were reported last year in the United States. People who are diagnosed as carrying the germ of the disease still are subjected to stringent medical treatment even though it is unlikely that TB today has the same implication that it did in earlier times. In this issue of my Newsletter, I examine the modern diagnosis and treatment of this ancient disease.

Q I am a healthy, 26-year-old male who has had two positive Mantoux tests --the prong and the under-the-skin method. After the first positive test (the prong), I was x-rayed. The chest x-ray came back negative, and I was advised to take the second Mantoux which came back positive.

I am supposed to take Isoniazid daily for one year, and I am to have an annual x-ray thereafter. Is all this necessary? What does a positive Mantoux mean?--C.S.

A The injection under the skin of a substance called old tuberculin was introduced by three doctors. Two of their names--Mendel and Von Pirquet --never made it into the TB Hall of Fame, but the third name, that of French physician Charles Mantoux, is forever linked to this skin test.

*Must patient
with
positive
Mantoux test
be treated?*

When properly performed and interpreted, the Mantoux test indicates a patient has had "meaningful contact" with the tuberculosis germ, i.e., the germ either in the past or at the present has entered the body. This does not mean the patient has what you and I would call tuberculosis. Tens of millions of people in our country show positive Mantoux tests, but when was the last time that either you or I heard of a real case of tuberculosis?

I emphasize the above point because of the great number of questions similar to yours which reach me from people who have been given a routine tuberculin test and have found their own physicians' explanations unsat-

isfactory. Many mothers have told me that their neighbors, upon learning their child has had a positive tuberculin test, begin treating the entire family as pariahs. This phenomenon is so common in some neighborhoods that I advise mothers of tuberculin-positive children to keep this information to themselves. I often wonder how much unnecessary fear and social stigmata are generated by the routine testing for a disease which has all but disappeared.

Preventive treatment with Isoniazid (INH) is far from 100 per cent safe. Laboratory evidence of liver damage will occur at some time during the year of INH treatment in 10 to 20 per cent of patients ("Infectious Diseases," edited by Paul D. Hoeprich, M.D., Harper & Row: 1977). INH hepatitis is rare under age 20, but the frequency rises up to one per 300 for ages 20 to 34, up to 1.2 per cent for ages 35 to 49, and up to 2.3 per cent for age 50 and over.

Since you have not mentioned exposure to known cases of active tuberculosis, and since your x-ray is normal, the only possible reason for INH chemoprophylaxis would be if you had "recently converted" from a negative to a positive Mantoux test. Your letter, which fails to mention any information about previous tests, leaves a crucial gap in determining whether or not INH should even be considered. You must clear up this point with your physician. In addition, make sure that your physician has properly read the reaction on your skin; if not, the test must be repeated. Once a test is truly positive, there is no point in further skin testing since a patient will reconvert only rarely.

While the chemoprophylaxis (drug treatment) of tuberculosis is most dramatically effective in children under three years of age, extension to other age groups is less firmly established. Dr. Hoeprich points out that, outside the United States, conversion of the tuberculin test is not uniformly accepted as an indication for chemoprophylaxis over 12 years of age. Furthermore, any benefit from INH may be achieved at the cost of suppression of an immune response.

I hope this information provides a starting point for you and your doctor to further explore the conventional wisdom which supports INH and annual chest x-rays.

Q At his recent first-birthday checkup, our son was given a routine TB test which his pediatrician read as positive. We were sent to a local clinic where the doctor thought the test was inconclusive and gave a Mantoux test which our pediatrician also read as positive. However, at the clinic, two nurses read it as negative before we saw another doctor who hesitated before saying "positive" and ordering an x-ray (results were normal) and a year's course of Isoniazid.

I am concerned about giving an antibiotic for such a long period of time to such a young child. What are the side effects? Would re-testing perhaps yield different results in a few months (or years) and could the Isoniazid be stopped? Our son seems to tolerate it well, but could it do hidden or permanent damage?--Mrs. B.E.

A The AMA Drug Evaluations states, "Preventive treatment is considered mandatory for all positive tuberculin reactors under six years of age." However, that same source also says, "On the basis of studies carried out by the U.S. Public Health Service, it was formerly recommended that any person found to have a positive Mantoux (tuberculin test) be given a course of chemoprophylaxis with Isoniazid alone for one year. As a result, Isoniazid was given indiscriminately to thousands of individuals. After the risk of Isoniazid-induced hepatitis became apparent, the indications for preventive treatment were reduced."

Are TB tests positively positive?

Isoniazid's long list of side effects on the nervous system, gastrointestinal system, blood, bone marrow, skin, and endocrine glands are listed in the AMA volume and in the prescribing information found in the Physicians' Desk Reference. In my opinion, these possible adverse reactions of Isoniazid, when added to admitted errors of past overprescribing, give you the right to ask your doctors to clear up the confusion that often surrounds the interpretation of tuberculin tests and the incidence of change in the tuberculin test on retesting.

Although you have not said so in your letter, I presume the physicians have thoroughly investigated the possible source of your child's infection, if indeed there is one.

Q I recently showed a reaction to a test for tuberculosis indicating that I have been exposed to TB germs. An x-ray revealed no signs of the disease, but my doctor strongly advised me to take Isoniazid for one year, which I understand is the standard treatment.

I reluctantly began to take the pill one month ago and have noticed no side effects. Yet it disturbs me to take a pill every day for an illness I do not even have. I believe strongly in good diet and in reliance on the body's natural ability to fend off disease.

I also wonder about unseen side effects and about the body's defenses becoming weakened after one takes this drug over a long period of time. After taking Isoniazid for seven months, a friend of mine suffered a severe allergic reaction--her joints swelled and she suffered a rash over her entire body.

I am currently in the best of health; I bore a healthy baby two years ago, and I have never had any major health problems. I had planned to become pregnant again soon, and the doctors assured me that I could stop taking the drug if I do become pregnant. But I feel that exposing the fetus to this medication during the baby's early stage of development represents a risk.

What is your opinion about my continuing to use this drug? Do you think I should get pregnant while taking Isoniazid?--J.S.

A Isoniazid, like almost all drugs that enter the bloodstream, passes through the placenta and thus into the developing fetus. While there is no evidence that congenital malformations in humans are caused by this drug, experiments on rats and rabbits have shown that Isoniazid may destroy the embryo of these animals. Isoniazid also interferes with the metabolism of Vitamin B6 (Pyridoxine) and depletes the tissues of this vital substance.

*Isoniazid
effect
on fetus*

This nutritional effect may result in Isoniazid peripheral neuropathy which consists of numbness, burning pain and weakness. Pellagra has been reported in some patients who have received this drug. One would indeed have to have very serious reasons to expose an unborn child to such a powerful chemical.

You may wish to ask your doctor the following questions:

- 1) How reliable is the single test I had for TB?
- 2) If the test is reliable, has it been positive for years or is this a new finding for me?
- 3) Since my x-ray is negative, please explain why you recommend that I take Isoniazid?
- 4) Do the presumed benefits of this treatment outweigh the documented risks?

Q If a person has been treated once for tuberculosis, can he be treated for it again? Can TB recur? And how long can a person survive with arrested TB?--R.C.

A Your brief letter puzzles me, and I want to avoid giving simplistic answers which either may be misleading or may not address themselves to your real concerns. Of course, a person can be re-treated for tuberculosis. Of course, tuberculosis can recur. A person can live a long, satisfying life with arrested tuberculosis.

Can TB recur?

These responses are so obvious that I sense your real questions lie between the lines of your letter. While I am flattered that you invested the time and effort to write me, I must respectfully, but firmly, point you in the direction of your own doctor for a longer, deeper, and less academic discussion than that contained in the few lines of your letter.

Liver damage from Isoniazid Tens of thousands of children throughout the U.S. receive daily doses of Isoniazid because they have a positive tuberculin skin test. Now, a report of liver damage in children from this kind of prophylactic treatment has appeared. Dr. P. Spyridias of the Athens University School of Medicine has found elevated blood levels of certain enzymes in a study he did on 239 children who received Isoniazid. While he characterizes the effects as usually mild and transient, he concluded that these findings suggest that liver injury in such children is more prevalent than was previously suspected.

Q Two months ago, I was given a TB patch test, and I had a reaction on my arm. The reaction was not severe, but it did leave a red inflamed circle around the shot. The doctor said I did not have TB but that I would have to take Isoniazid once a day for one year. Why? His answer was, "You'll just have to have it." But he says the test wasn't positive, and if it wasn't, I don't know why I should be taking unnecessary medicine. He has told me to watch my coloring and the pupils in my eyes while I take this medication, and that has made me afraid of the after-effects of Isoniazid. Should I be taking it?--Mrs. M.C.

A While your doctor was correct in telling you that a positive tuberculin test (assuming that your test was accurate) is certainly no indication of active tuberculosis, you may wish to question him further about his recommendation that you take Isoniazid as a "prophylactic."

"Prophylactic" Isoniazid Your doctor was absolutely correct in cautioning you to watch the color of your skin and eyes, since Lilly's Isoniazid has been clearly linked to severe and sometimes-fatal hepatitis. As a matter of fact, the manufacturer's directions explicitly state: "The risk of hepatitis must be weighed against the risk of tuberculosis in positive tuberculin reactors over the age of 35." However, he failed to give you a complete accounting of all the side effects of this powerful chemical: Vitamin B6 deficiency may occur, resulting in peripheral neuritis. Isoniazid may interact with Dilantin, alcohol, and other medications. Other possible reactions include nervous system symptoms (convulsions, memory impairment, and psychosis), and hematologic reactions (destruction of the bone marrow resulting in aplastic anemia), and "miscellaneous"

reactions such as hyperglycemia, enlargement of the male breasts, and systemic lupus erythematosus-like syndrome.

Now that you have more information on the dangers of this drug, it is up to your doctor to prove to you that your chance of developing tuberculosis is greater than the chance of damage from the treatment.

Potpourri

Q For more than six months, our two and-a-half year old son has been having trouble moving his bowels. The pediatrician initially prescribed a stool softener which he took for two months, having bowel movements every four to five days. But then our family doctor feared our son might become dependent on this medicine, told us to stop using it and to give Metamucil and to use suppositories instead. Now, he has a bowel movement about once a week, at which time I give him a suppository.

The child's movements seem very painful at times, and they are very large. I feel he is holding the stools back because he never had any problems like this before, and one week during this six-month period, he had two bowel movements a day without medication. But then he went back to this routine.

I've changed his diet, cut down on starches, tried to get him to eat food with fiber and to eat fruits and vegetables, which he hardly will eat at all. In a few weeks, I'm taking him to another doctor who I'm afraid will send him to a rectal specialist to be x-rayed. I hate to put him through all this, but I don't know what else to do. He's been checked for a fissure, which he doesn't have, and he has never had any blood in his stool. Please advise us.--Mrs. J.A.

A Hold it (so to speak) right there! Do not pass "Go"! Do not let any doctors take x-rays. Instead, when you go to your new doctor in a few weeks, ask him to help you explore what happened to your son around the age of two. Had you been breastfeeding him up till then and did you then wean him to cow's milk, one of the most common constipating agents in children? Did you initiate toilet-training? What else happened around that time? Examine carefully the events surrounding that one-week period in which he had two bowel movements every day. Did you perhaps stop toilet-training during that week?

*Toddler
has trouble
moving
bowels*

Your medical management is running in reverse. First, your child was subjected to treatment. Now, it looks as if he may be subjected to x-rays and other tests. I urge that you back up even further to where the management of this case should have begun--have the doctor get a complete and thoughtful history.

Q What is the difference between synthetic Vitamin A and natural Vitamin A? What constitutes a toxic dose of each of them? I personally know people who have consumed large amounts of natural Vitamin A and D concentrate daily for long periods of time and have suffered no ill effects.

I know you can't get away doing this by using drugstore vitamins, but I have no documentation at my fingertips. Do you?--D.C.

A

Artificial vitamins aren't the same as natural vitamins

Even though high school biology students learn about the polar explorers who developed severe hyper-vitaminosis from eating large amounts of liver from polar bears and other Arctic animals, your point about the difference between the vitamins in drug stores and vitamins from natural sources is well-taken.

In his book "Diet & Nutrition" (\$15.95), Rudolph Ballentine, M.D., states: "Cases of toxicity resulting from pre-formed Vitamin A, usually taken as capsules of a concentrated supplement, rather than in animal foods, have been described in children and adults in both acute and chronic forms." He further states: "...the untoward results were produced by giving pre-formed Vitamin A (retinol), and there is no indication that there is any risk whatever as long as one's source of Vitamin A is beta carotene (i.e., vegetable foods)."

Practically the only cases of Vitamin A poisoning which we pediatricians see result from synthetic vitamins which are prescribed for children. Many of these cases may result from the tendency of doctors to believe that artificial is the same as natural: i.e., x-rays produced by machine are the same as x-rays produced by nature, fluoride added to water is the same as fluoride occurring naturally, and synthetic thyroid hormone is the same as that produced by your own thyroid gland.

Q

Eight weeks ago, I had a hysterectomy in which the uterus and cervix were removed. For 48 hours, I had I.V.'s alternating in both hands and in the left arm. For three weeks after surgery, the vein in my right arm, just above the wrist, was painfully swollen. After the swelling went down, I discovered a lump in that arm.

At my six-week check-up, my gynecologist said the lump in my arm is a blood clot in that vein. He said to use a heating pad, and it should go away. I've been using a heating pad three hours a day for the past two weeks, but the blood clot is still the same size in the same place. Nothing about it has changed. The only result of the heating pad is that I have a terrible ache in my hand and arm whenever I use it.

Is it dangerous to have a clot in the vein? What should be done about it? I take Inderal twice daily and Dyazide once daily for tachycardia and high blood pressure.--Mrs. B.B.

A

IV-caused clot won't disappear

Since your gynecologist's advice does not seem to be working, it is obviously time for you to see another doctor. You might choose either an internist, a hematologist, or a cardiovascular specialist, any of whom should be able to help you manage this not-uncommon complication of any kind of surgery, hysterectomy included. I have seen many patients who have had more difficulty recovering from the complications of intravenous therapy than from the primary operation.

When you see the specialist, you might ask him whether the Dyazide you are taking may have contributed to your vascular condition, since this class of drugs has been known to cause a serious condition of the blood vessels known medically as necrotizing vasculitis. Incidentally, you might also ask the specialist about the warning in the prescribing information that "Inderal should be withdrawn 48 hours prior to major surgery." During such surgery, Inderal may interfere with the functioning of the heart in maintaining a proper beat.

Q

When I was about four weeks pregnant, I was accidentally sprayed in the face with a herbicide. What effects might this have on my unborn child? Would amniocentesis show any birth defects caused by this? Are any other tests available for testing fetuses for birth defects?--Dayton Reader

A

Can herbicide affect unborn child?

Even if amniocentesis were 100 per cent safe, which it most certainly is not, it would not help in your case, since no defects resulting from environmental poisons, including herbicides, have been discovered as a result of this fairly new technique. I know of no safe tests that would provide an answer to your question. However, if you are able to identify the ingredients of the herbicide, you may wish to consult one of the many toxicologists either at universities or at state health departments. One such national expert in pediatric toxicology is Mark Thoman, M.D., of Des Moines, Iowa.



Recent research by two physicians has shown that episiotomies (incision to enlarge the vagina during delivery) are done in about 70 per cent of all non-Caesarean births in the United States. A study of the medical literature by Stephen B. Thacker, M.D., chief of surveillance at the Center for Disease Control in Atlanta, and H. David Banta, health programs manager for the Office of Technology Assessment in Washington, also shows that up to 90 per cent of all women in the U.S. who give birth for the first time have episiotomies unless they have Caesarean sections. The two doctors said the procedure, while it may be useful in some difficult deliveries, is unnecessary in many others. They reiterated what every woman who has ever had one knows--an episiotomy increases the risk of infection and protracted pain after delivery.

Ervin Nichols, M.D., an official of the American College of Obstetricians and Gynecologists, immediately objected to the report, claiming it was "anecdotal" and "inconsistent."

This new evidence by these two eminent researchers supports my long-standing advice that every woman who contemplates having a baby discuss in advance with her doctor whether an episiotomy will be done "just in case."

Male Practice: How Doctors Manipulate Women, Dr. Mendelsohn's latest book, has just been published by Contemporary Books (\$10.95).

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Another View

by Marian Tompson
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As a young girl, my impression of how patients were treated for TB was shaped by the novels I read. Persons so afflicted went off to a sanatorium, usually located in the mountains, where they spent their days resting in the clean, fresh air, reading, writing in their journals, and eating good wholesome food. Those books almost made me want to have tuberculosis myself! Fifteen years ago, when my mother's friend, Mary, was suspected of having the disease, I learned the difference between the myth and the reality of TB treatment. Mary's ordeal began innocently enough when she decided to teach a flower-arranging class at the local high school, and she was required to have a chest x-ray. When the technician "saw something" on the film, Mary was sent to a clinic where a doctor told her she must immediately check into the TB sanatorium. The doctor said that if she didn't comply, the police would come after her.

"I was terrified," Mary says when she remembers the nightmare she still is trying to forget. "Every morning you were awakened in the pitch dark about 5 a.m., and a tube was put into your stomach to collect samples of sputum. The physician in charge was a mad, mad smoker who was very big on bronchoscopies. This procedure, in which a tube is forced down your bronchial tubes, was very painful and patients would go pale upon hearing they were scheduled for one.

"They seemed to want to perform surgery on everyone who was there. I saw a number of people, some of them very young, who had lungs removed. When they pressured me to have this operation, I asked the doctor if it really was necessary, and she said no. So I didn't have surgery. I turned out to be allergic to the injections they gave me, so they switched to INH [Isoniazid] by mouth." "What about fresh air and good food?" I asked. "We spent most of our time in occupational therapy classes or watching soap operas on TV," Mary explained, "And the food was the standard hospital fare."

Four months later, Mary was told she was cured. However, before she left, the doctors warned her never to use a mobile x-ray unit "because they'll get all upset and make your life miserable." Years later, Mary was outraged when she learned from another doctor that active tuberculosis never could have been cured in so short a time. So, in Mary's indignant words, "That whole stay in the sanatorium was a waste of time."

In the mid '70's, when Illinois closed its TB sanatoria, I thought the disease had been somehow eradicated. So it surprised me to learn that, while the incidence of TB has decreased slowly during the past 26 years, in the past year alone more than 27,000 cases were reported in the U.S. But the treatment has changed. Most people, if they can get to a clinic, now are treated on an outpatient basis. According to the medical administrator of several such clinics, BCG (an anti-tuberculosis vaccination) no longer is considered reliable, and the preferred treatment is INH by mouth, which can produce a cure in nine months. That same administrator says that mobile x-ray units no longer are sent out because people were getting too much radiation from those units. The patch test is used for diagnosis instead. Fresh air and good food? "Well, that was the treatment fifty years ago," the administrator acknowledges, "but they don't pay much attention to that today."

Fashions in the diagnosis and treatment of TB still are changing. As the hazards and ineffectiveness of one procedure is uncovered, another is tried in its place. I'm glad TB patients no longer are separated from their families, and I appreciate the continuing efforts to treat this disease safely. But can anyone tell me what was so dangerous or unnecessary about all that good food and fresh air?