Chemotherapy for the Tuberculin Converter:
Results of a Survey of Attitudes Among
424 Tuberculosis Hospitals in the United States*

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Persons whose reaction to tuberculin has changed from negative to positive are known as tuberculin converters. There is widespread interest in chemotherapy for tuberculin converters as a means of preventing the development of clinical tuberculosis. Drug therapy of this kind is referred to as chemoprophylaxis. The effectiveness of chemoprophylaxis is thought to be greatest when offered to those whose tuberculin reactions are known to have changed from negative to positive within the previous year.

Robinson, Meyer and Middlebrook1 were the first to report a pronounced decrease in the skin hypersensitivity of four infants to tuberculin during treatment with isoniazid. In each instance the reaction became negative to old tuberculin in a dilution of 1:100. Though few in number, their series of cases was of considerable interest to all who are intrigued with the idea of treating tuberculous infection in its earliest recognizable stage. So far, results have not been reported of the studies that are being made on a large scale by the United States Public Health Service.

**Conduct of the Survey**

Our curiosity about the prevailing attitude of our colleagues toward the treatment of tuberculin converters caused us to include a specific inquiry in a questionnaire mailed in 1956 to tuberculosis hospitals throughout the United States. The question was: _What is your policy regarding chemotherapy for persons (employees, contacts, etc.) whose tuberculin reactions change from negative to positive within a year but who show no evidence of active tuberculosis by x-ray or other examination?_ For the convenience of the respondents, multiple-choice answers were provided.

The remainder of the questionnaire was concerned with policies and practices governing chemotherapy for patients following their dismissal from tuberculosis hospitals. Results of the survey are recorded elsewhere.2

The questionnaire was mailed to 519 institutions that met our criteria for inclusion in the survey. We required that they provide definitive care for tuberculosis. They must not be short-term diagnostic or surgical units, tuberculosis divisions of mental hospitals, or units operated by the armed forces. We received replies from 424 hospitals (figure). This represents an 81.7 per cent response.

Responses to the question are organized in the table in terms of the multiple-choice answers provided in the questionnaire.

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Attitudes Toward Treatment of the Tuberculin Converter

The respondents for 51.2 per cent of the hospitals said they do not offer chemoprophylaxis to the tuberculin converter unless a tuberculous lesion develops. On the other hand, those responding for 11.1 per cent of the hospitals stated that they prescribe treatment for all converters. An additional 23.3 per cent of the hospitals recommend chemoprophylaxis for selected cases. The respondents for 10 of the latter hospitals described the type of case selected for chemoprophylaxis: six limit treatment to infants, children or adolescents; two limit treatment to nurses or contacts of known open cases; one limits treatment to diabetic persons or to persons requiring steroid therapy; and one limits treatment to anyone converting within 6 months. From comments appended to a number of responses, it would appear that isoniazid is the drug of choice. In no instance did we sense that hospitalization was recommended as a part of the treatment of the tuberculin converter who presented no evidence of clinical tuberculosis.

The attitude toward treatment of tuberculin converters appears to be more conservative in hospitals located in the East and South than in hospitals located in the West and North Central regions of the country. Several respondents for one group of hospitals said that the policy governing operation of their hospitals did not permit treatment of tuberculin converters unless a tuberculous lesion appeared; therefore, they had to state this in their answers to the questionnaire; but they said that they, personally, favored the treatment of tuberculin converters without waiting for evidence of clinical tuberculosis.

We received qualified answers from 21 hospitals (5.0 per cent of the total). Most of these indicated two choices in the management of tuberculin converters. The respondents for 15 hospitals said that no treatment was offered unless the converters generated tuberculous lesions. Twelve

<table>
<thead>
<tr>
<th>REGIONS</th>
<th>HOSPITALS</th>
<th>BEDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>N. CENTRAL</td>
<td>29.9 %</td>
<td>25.6 %</td>
</tr>
<tr>
<td>SOUTH</td>
<td>26.4</td>
<td>32.4</td>
</tr>
<tr>
<td>EAST</td>
<td>24.8</td>
<td>27.1</td>
</tr>
<tr>
<td>WEST</td>
<td>18.9</td>
<td>14.9</td>
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Location of 424 hospitals with 84,346 beds for tuberculosis. Each dot represents the location of one tuberculosis hospital. Heavy lines divide the map into the four regions defined by the Bureau of the Census.
of these, however, also indicated that they would prescribe treatment in
selected cases: in most instances they recommended the treatment of chil-
dren, and in one instance treatment was advised for contacts who are
tuberculin converters.

Comment

The results of the survey reported in this article indicate current policies
guiding the chemoprophylaxis of tuberculosis among specialized institu-
tions—the tuberculosis hospitals. If encouraging results are observed from
the treatment of large numbers of tuberculin converters in properly con-
trolled studies, the attitude toward the chemoprophylaxis of tuberculosis
in the United States probably will become less conservative. Those who
prefer to withhold therapy until a tuberculous lesion appears may change
their opinion and offer treatment to properly selected persons with tuber-
culosis in its preclinical stage.

SUMMARY

Answers were returned from 424 tuberculosis hospitals in the United States in a
survey of policies in 1956 concerning treatment for the tuberculin converter—the
person whose tuberculin reaction changes from negative to positive within a year,
but who presents no evidence of active tuberculosis by x-ray film or other examination.
Respondents for 51.2 per cent of the hospitals do not offer treatment unless a tuber-
culous lesion develops, 11.1 per cent prescribe treatment for all cases of tuberculosis
conversion while 23.3 per cent restrict treatment to selected cases (infants, children
or adolescents; nurses, contacts, persons with diabetes mellitus or persons who re-
quire steroid therapy, etc.). Isoniazid appears to be the drug of choice in the treat-
ment of tuberculin converters.

RESUMEN

En contestación a una encuesta que se hizo en 1956 entre hospitales de tuberculosis
en los Estados Unidos respecto de su actitud ante el uso de la tuberculina—las personas
cuya reacción negativa vira a positiva, en el término de un año, pero que no presentan
evidencias de tuberculosis activa se obtuvieron las respuestas de 424 hospitales.
51.2% de los hospitales que contestaron, no aconsejan tratamiento a menos que se presente una lesión tuberculosa; 11.1% por ciento prescriben tratamiento para todos los casos cuya tuberculina reacción negativa vira y 23.3% por ciento limitan el tratamiento a casos selectos (niños, niñas o adolescentes, enfermeras, contactos, personas con diabetes, o personas que necesitan tratamiento con esteroides, etc.). La isoniacida parece ser la droga de elección para los reactivos recientes.

RESUME

Les auteurs ont pu recueillir les réponses de 424 hôpitaux tuberculeux des Etats-Unis sur la façon dont été traités en 1956 les virages de réactions tuberculiniqnes (personnes dont les réactions tuberculiniqnes étaient devenues positives pendant l'année, mais qui n'ont montré aucune manifestation de tuberculose active par les films radiologiques ou lors d'autres examens).

51.2% des hôpitaux qui avaient répondu ne donnaient pas de traitement à moins qu'une lésion tuberculeuse ne se développe, 11.1% prescrivaient un traitement pour tous les cas de virage, tandis que 23.3% restraignaient le traitement à des cas choisis (bébés, enfants ou adolescents; infirmières, personnes en contact avec des tuberculeux, personnes atteintes de diabète sucré ou personnes qui avaient besoin d'une hormonothérapie, etc.). L'isoniacide semble être la médication de choix dans le traitement des virages de réactions tuberculiniqnes.

ZUSAMMENFASSUNG

Es wurden von 424 Tuberkulose-Anstalten der USA Antworten erteilt auf eine Übersicht der Verfahren von 1956 hinsichtlich der Behandlung von Tuberkulinkonver- toren—d.h. solchen Personen, deren Tuberkulinreaktion innerhalb eines Jahres wechselte von negativen zu positiven Ausfall, die aber keine Anhaltspunkte für eine aktive Tuberkulose durch Röntgenaufnahme oder andere Untersuchungen boten.

51.2% der antwortenden Anstalten empfehlen keine Behandlung, sofern sich keine tuberkulösen Herde entwickeln, 11,1% schreiben eine Behandlung vor für alle Fälle von Umkehr der Tuberkulinreaktion, während 23,3% die Behandlung beschränken auf ausgewählte Fälle (jüngere und ältere Kinder oder Jugendliche, Pflegepersonal, Umgebungsfälle, Personen mit Diabetes oder solche, die eine Steroidbehandlung benötigen). INH scheint das Mittel der Wahl zu sein für die Behandlung der Tuberkulinkonvertoren.

REFERENCES

