The Treatment of Intestinal Tuberculosis*

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Since the discovery of antibiotics, numerous authors have observed their effect on intestinal tuberculosis. The conclusions are not uniform. The action of streptomycin has been particularly studied by Sweany, Mason, and Hinshaw in the United States, Markoff in Switzerland; we ourselves have communicated our results on the occasion of six observations, and more recently have given general views on this subject.

Para-aminosalicylic acid was the chief subject of works by Swedish authors Carstensen and Sjölin, and Ivar Kallqvist. More recently, T.B./1 claimed the attention of Boehm and Kulmann etc.

Working Scheme

We shall first present 24 observations of intestinal tuberculosis, which were gathered in Bordeaux and Marseilles hospitals, and then show the results of the investigations made among 30 sanatoriums in France.

Observations

Of the 24 patients considered, 23 presented intestinal tuberculosis, secondary to pulmonary tuberculosis. Only one of the patients had isolated intestinal localization of the disease.

The clinical and bacteriological studies, as well as the x-ray films, support the diagnosis.

With regard to radiology, nearly all patients were first examined through an opaque meal, then through a clyster with baryta, and finally, after evacuation, through insufflation of the intestinal tube.

The patients were all treated with streptomycin, intra-muscular, in doses from 1 to 2 grams a day for a period covering one to three months. Three of these patients were given para-aminosalicylic acid treatment.

We have endeavored to classify these cases according to the lesions, as they appeared from the clinical and radiological studies. We thus classified our patients into six groups, corresponding to different lesions and syndromes.

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First Group: Ulcerous Diffuse Tuberculosis of the Intestine.

Nine patients were observed with various pulmonary conditions, serious in most cases. They had profuse diarrhea, abdominal pains and poor general condition. Their emaciation resulted from deficiency in assimilation, or dehydration. Their temperature was high and fluctuating. With all of them a remarkable effect of streptomycin on the intestinal lesions and on the general condition was observed.

Two of these patients had complete cleaning of their pulmonary lesions. Two others were able to undergo surgical collapse. In three others the improvement of pulmonary lesions was moderate, without collapse, and the remaining two died, one of cachexia with phlebitis, and the other from hemoptysis. Autopsy of the latter, six months after the clinical healing of his intestinal troubles, disclosed the existence of numerous cicatrized ulcerations in the ileum and the large intestine.

One patient was treated solely with para-aminosalicylic acid for two months, in doses of 14 grams a day when the diarrhea and emaciation were worse, with total loss of appetite. With two months of streptomycin the digestive troubles ended, making the x-ray pictures more normal, and the weight increased 8 kilograms.

After periods of from six months to two years, none of the nine cases had relapsed.

Second Group: Localized Ileo-caecal Tuberculosis.

These five patients were treated with streptomycin longer than those of the first group. One of them subsequently was given para-aminosalicylic acid. These presented various troubles, chiefly diarrhea, with interruptions at times of pseudo occlusive phenomena. In the right iliac fossa, bulky caecal tumors could be felt.

Four patients healed within one to three months of streptomycin administration from clinical and radiological evidence. Only one patient, after receiving antibiotic for one month, had to be operated upon, notwithstanding clinical improvement. The removed specimen showed scar with fibrous and retractile reaction which permits considering this case as complete healing.

Third Group: Tuberculosis with Stenosis of the Small Intestine.

These three cases presented various phenomena such as diarrhea, alternating with constipation. Evidence of obstruction was the predominant symptom. These patients were in poor general condition. Streptomycin was administered in usual doses, and one received para-aminosalicylic acid, which was discontinued for lack of tolerance.
In spite of the drugs, the strictures gradually grew tighter and dehydration of the patients grew worse. Two had to undergo surgery.

The removed stenosed areas (one in one case and eight in the other) revealed the exact nature of inflammatory shrinkings, brought about by recent tuberculous lesions. These patients experienced return of appetite, increase in weight, etc. At the same time, pulmonary improvement was so considerable that healing seemed possible.

The third patient, because of phlebitis and a most serious general condition, could not be operated upon. Autopsy disclosed the existence of three stenoses with ulcerations. On the other hand, numerous ulcerations on the remainder of the small intestine and of the colon could be seen microscopically and histologically as being healed.

**Fourth Group: Intestinal Tuberculosis with General Granulation.**

The three cases with this disease died, notwithstanding the use of antibiotics.

**Fifth Group: Isolated Rectal Tuberculosis.**

This group consisted of three cases, of which two were observed by Cattan. All of them were successes for streptomycin within a period of 30 to 45 days.

**Primitive Intestinal Tuberculosis**

Finally, one case of "primitive" intestinal tuberculosis was observed in a patient presenting a cutaneous allergy to tuberculin, tuberculous epididymis, and cutaneous tuberculosis. The stools contained tubercle bacillus, and radiological examination confirmed the suspicion of ileo-caecal tuberculosis. One gram of streptomycin was administered daily for five months and no symptom has occurred for one and a half years.

**Investigations at Sanatoriums**

We have made investigations in 30 sanatoriums with the conclusion that ever since the use of streptomycin, intestinal tuberculosis is extremely rare in France. Those establishments which previously always had several cases of intestinal tuberculosis have had from none to a very small number during the last three years.

Several doctors cling to the old methods: vitamin therapy, physiotherapy, surgery. Most phthisiologists who have observed cases of intestinal tuberculosis treated with streptomycin agree that the results are "spectacular."
Discussion

In this debate on the value of the various antibiotics towards intestinal tuberculosis, we are anxious to present these 24 cases to the credit of streptomycin.

Thiosemicarbazones do not appear to be without danger, as sanguine and hepatic troubles are reported by numerous authors. The effect seems to be slower and inferior to that of streptomycin.

Para-aminosalicylic acid was not tolerated in two cases, and it was necessary to stop the treatment. In one case, after two months, the condition of the patient became worse, and streptomycin had to be used. Judging from the studies of Swedish authors, the frequency of digestive intolerances to para-aminosalicylic acid is considerable with persons having intestinal tuberculosis. Moreover it requires several months before results appear.

During the course of intestinal tuberculosis which rapidly makes for an extremely weak general condition, streptomycin seems to work more quickly, sometimes stopping diarrhea in three to four days and increasing weight by several kilograms within two to three weeks. This fact alone would be sufficient to give preference to this drug. No toxic manifestation occurred in any of our 24 patients.

In the presence of an ulcerous diffuse form of tuberculosis localized in the ileum and caecum, much can be expected from the antibiotic. On the contrary, in the case of stenosis in the small intestine, surgical intervention must be contemplated.

At present, thanks to antibiotics, intestinal tuberculosis in a phthisical person no longer means certain death, and does not contraindicate collapse therapy.

SUMMARY

1) Twenty-four cases of intestinal tuberculosis have been treated by streptomycin with generally good results, but variable according to the anatomic form of lesions.

2) The ulcerous diffuse forms, the isolated ileo-caecal and rectal lesions, respond to the antibiotic.

3) In the stenosis form in the small intestine, streptomycin constitutes a good preoperative treatment and auxiliary, but does not prevent radical intervention.

4) “Primitive” intestinal tuberculosis seems to be influenced favorably by the antibiotic.

5) Since the use of antibiotics, the frequency of intestinal tuberculosis has diminished considerably in France.

6) As compared to para-aminosalicylic acid and to amithiozone,
the action of which seems to be slower and not so well tolerated, streptomycin appears to deserve first place.

7) Thanks to streptomycin, the influence of intestinal tuberculosis on pulmonary lesions of phthisical persons loses its dreadful meaning of aggravation and enlarges the limits of collapse therapy.

RESUMEN

1) Se han tratado veinticuatro casos de tuberculosis intestinal por la estreptomicina con resultados generalmente favorables pero variables de acuerdo con la forma anatómica de las lesiones.

2) Las formas ulcerosas difusas, las aisladas ileocecales y las rectales responden al antibiótico.

3) En la forma estenosante del intestino delgado la estreptomicina es un buen tratamiento prooperatorio auxiliar pero no evita la intervención radical.

4) La tuberculosis intestinal “primitiva” parece ser influenciada favorablemente por el antibiótico.

5) Desde que se emplean los antibióticos la frecuencia de la tuberculosis intestinal ha disminuido considerablemente en Francia.

6) En comparación con el ácido paraminosalicílico y con la amithiozona, de la cual la acción parece ser más lenta y no tan bien tolerada, la estreptomicina parece merecer el primer lugar.

7) Gracias a la estreptomicina la influencia de la tuberculosis intestinal en las lesiones pulmonares tuberculosas pierde su temible significación de gravedad y amplía las posibilidades de la colapsooterapia.

RESUME

1) 24 cas de tuberculose intestinale ont été traités par la streptomycine avec, en général, de bons résultats, variables cependant suivant la forme anatomique des lésions.

2) Les formes ulcéreuses diffuses, les lésions iléo coceales et rectales isolées répondent à l'antibiotique.

3) Dans les formes sténoantes de l'intestin grêle la streptomycine constitue un bon traitement pré-opératoire et adjuvant, mais ne dispense pas de l'intervention radicale.

4) La tuberculose intestinale primitive semble être influencée favorablement par l'antibiotique.

5) Depuis l'emploi des antibiotiques la fréquence de latuberculose intestinale a considérablement diminué en France.

6) Comparée au PAS et à l'amithiozone, dont l'action semble plus lente et moins bien tolérée, la streptomycine semble mériter la première place.
7) Grâce à la streptomycine, l’influence de la tuberculose intestinale sur les lésions pulmonaires des ptisiques perd sa terrible signification d’aggravation et élargit les limites de la collapsotherapie.

REFERENCES