

**A CLINICAL STUDY OF TWO HUNDRED
AND NINETY-THREE CASES TREATED AT
THE WINYAH SANITARIUM,
ASHEVILLE, N.C., IN 1905 AND 1906 :
WITH SPECIAL REFERENCE TO SPECIFIC
MEDICATION AND ITS RESULTS**

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A CLINICAL STUDY OF TWO HUNDRED AND NINETY-
THREE CASES OF PULMONARY TUBERCULOSIS
WITH SPECIAL REFERENCE TO SPECIFIC
MEDICATION AND ITS RESULTS

BY

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In the present report of 293 cases of pulmonary tuberculosis we have adopted the classification of stages and results according to the form recommended by the National Association for the Study of Tuberculosis.

We do this for the purpose of making our statistical data uniform with others, but with a sacrifice of a certain degree of prognostic value as concerns the grouping of stages, or classes of cases in which the National Association thought best to comply with Turban's method, probably because the latter is largely used in Europe and the Committee wished to make American statistics conform with those of other countries.

We are, however, still of the opinion that the grouping of cases as they come under treatment, having for its object the comparison of eventually obtainable results, cannot be based upon the extent of physical signs, or of local alterations disclosed by them, simply because they do not necessarily stand in relation to the prospect of improvement and recovery; and because even if they did, differences in the skill of physical examination, or in the interpretation of signs by different observers, would necessarily vary to a degree that individual statistics of results obtained could not be comparable.

The cases subject to the present report were classified on admission from a purely prognostic standpoint, and in re-arranging the classification a number of cases from our most favorable group (*A*) had to be changed to the moderately advanced stage, while of our previous group (*B*) not a few cases needed to be put into the far advanced stage. On the other hand several cases which we had grouped with class (*C*) required to be moved forward to the second stage although the prognostic outlook was exceedingly doubtful.

As heretofore we report no cases that were treated for less than a month. Concerning the results obtained that amount to less than an apparent cure or arrestment of the disease, it should be stated that but for a premature discontinuance of treatment by the patient, many of the improved cases could have appeared as cured or arrested in the table which follows:

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RESULTS IN 293 CASES OF PULMONARY TUBERCULOSIS.

STAGE	General			Appar. Re- covered			Disease Ar- rested			Improved			Stationary			Progressive		
	Number treated	Per cent. of all cases	Average duration of treatment days	Number	Per cent.	Average days treated	Number	Per cent.	Average days treated	Number	Per cent.	Average days treated	Number	Per cent.	Average days treated	Number	Per cent.	Average days treated
I. Incipient.	43	14.8	139	40	93.0	134	3	7.0	77	0	0	0	0	0	0	0	0	0
II. Mod. ad- vanced...	134	45.7	171	75	56.0	225	44	32.8	108	12	9.0	92	0	0	0	3	2.2	51
III. Far ad- vanced...	116	39.5	129	35	30.1	210	35	30.4	140	25	21.5	106	4	3.5	91	17	14.7	113
Totals	293	100	184.2	180	81.2	184.4	82	28.0	120.5	37	12.6	181.1	4	1.3	91	22	8.8	102.3

INFLUENCE OF TREATMENT ON SYMPTOMS.

Fever was present on admission in 250, or 85.3 per cent. of all cases: Not exceeding 100°F. in 92, or 36.8 per cent.; over 100°F., not exceeding 101°F., in 87, or 35.8 per cent.; over 101.5°F. in 71, or 28.4 per cent.

Fever was present on discharge in 106 cases, or 36.2 per cent., including 4 patients who died in the institution: Not exceeding 100°F. in 60 cases, or 56.6 per cent.; over 100°F., not exceeding 101.5°F. in 25 cases, or 23.6 per cent.; over 101.5°F. in 21 cases, or 19.8 per cent.

There were free from fever on admission 43, or 14.7 per cent.; on discharge 187, or 63.8 per cent.

Cough, Expectoration and Tubercle Bacilli.

Cough, or cough and expectoration, were present in all but 3 cases on admission, and without taking into consideration the degree of cough and amount of expectoration the difference between admission and discharge is as follows:

Cough and expectoration on admission 266, or 90.8 per cent.; on discharge 101, or 34.4 per cent.

Cough only, on admission 24, or 8.2 per cent.; on discharge 32, or 10.9 per cent.

Neither cough nor expectoration on admission 3, or 1.0 per cent.; on discharge 160, or 54.6 per cent.

In 266 cases which had expectoration, tubercle bacilli were found on admission in 251, and on subsequent examinations in 14, making a total of 265, or 90.4 per cent.

On their discharge tubercle bacilli were still present in 139, or 47.4 per cent.

Attention is directed to the fact that in all but one case in which expectoration was present tubercle bacilli were also found, if not on the first, then on repeated examinations with the aid of the centrifuge. While

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its persistent use added thus 14 instances of bacillary sputum in which the bacilli, as a rule, disappeared at an early period, this advantage to the number of cases reported as free from tubercle bacilli on discharge, is counter-balanced by the greater number of 17, in whose sputum they could be demonstrated only on repeatedly resorting to the same critical search.

Night Sweats.

Night sweats were present on admission in 87 cases or 29.7 per cent.; on discharge in 11 cases or 3.8 per cent. All the cases in which this symptom persisted were instances of progressive disease, and in which the sweats, though, as a rule controlled by the usual remedies, returned on their omission.

Weight.

The usual increase in weight in improving patients was observed with the same regularity as noted in our cases previously reported. Loss of weight since the beginning of the pulmonary disease had occurred in 32 cases of the incipient stage and in all but two patients in the advanced stages, averaging 7 pounds for the former, 15½ pounds for the moderately advanced, and 18 pounds for the far advanced stages. All the 43 patients in the incipient stage gained, and 131 of 134 cases in the moderately advanced stage, and 81 in the far advanced stage showed increase as compared with their weight on admission, the average gain for 255 cases being 14 pounds. An increase of from 1½ to 12 pounds over any previous weight was noted in 65 cases.

TUBERCULOUS COMPLICATIONS AND THEIR FREQUENCY.

One or more tuberculous complications were present in 173 patients, the total number of such complications being 197.

Bones and Joints	3.	=	1.0 per cent.
Digestive Tract: Mouth, tongue	2.	=	0.7 " "
" " : Intestine	16.	=	5.5 " "
" " : Rectum, ulcer	1.	=	0.3 " "
" " : " fistula	4.	=	1.3 " "
Ear: Otitis media	3.	=	1.0 " "
Eye: Iritis	1.	=	0.3 " "
Genitalia: male	1.	=	0.3 " "
Lymph glands	15.	=	4.8 " "
Mammary glands	1.	=	0.3 " "
Larynx	139.	=	47.4 " "
Nose	6.	=	2.0 " "
Peritoneum	1.	=	0.3 " "
Skin: Ulcer	1.	=	0.3 " "
" : Lupus	1.	=	0.3 " "
Urinary Organs: Kidney	2.	=	0.7 " "

Results Obtained by Treatment.

Bones and Joints: As to the results of treatment of the co-existing tuberculous complications we may briefly state that in the 3 cases of bone and joint tuberculosis there were:—

One case of tuberculosis of the knee joint which was improved; the patient, however, suffered a relapse on account of trauma occasioned by a fall.

One case of tuberculosis of the sacro-iliac joint, and shoulder which apparently recovered. Two injections of iodoform emulsion were made into the shoulder joint. The sacro-iliac disease had developed subsequently to an operation years ago upon the tuberculous hip joint, and the patient was helplessly confined to bed when coming under our care. Her pulmonary affection was moderately advanced and large doses of morphine had been necessary to control the pain of the bone and joint affection. On discharge the lung disease was apparently cured, and the general condition of the patient excellent and much better than at any time in her previous history.

The third case was one of caries of the second rib, evidently an extension from the subjacent destructive process in the lung. Previously scraping of the rib had been resorted to, but the cicatrix broke open, leaving a fistulous discharging tract which led to the carious bone. Both the lung and bone affection were apparently cured and the patient, discharged nearly two years ago, has suffered no relapse.

Mouth, tongue: Two cases of tuberculosis of the tongue were treated, one case with ulcer of the anterior portion involving also the floor of the mouth, which was greatly improved, with entire subsidence of pain and irritation, and was cicatrizing when the patient left the Institution. The second case in a young girl, aged 20, involved the posterior part of the tongue on both sides; there were an indurated base and undermined edges on one side, while on the other the process was more superficial. Miliary tubercles could be seen peripheral to the superficial ulcer; both ulcers involved areas corresponding to about one-half inch in diameter. Local reactions were observed frequently, and healing occurred promptly. Before coming under our care other methods of treatment had not only failed, but the affection had extended. In the diagnosis syphilis was positively excluded. The patient was dismissed, cured after a little over three months' treatment, having made great improvement in her general condition as well, by an increase of over 30 pounds in weight.

Intestine: In the 16 cases of intestinal tuberculosis the clinical symptoms were sufficiently marked, even if tubercle bacilli had not been demonstrated in the fæces, to leave little if any doubt of the presence of

ulceration. In 9 of the cases the symptoms subsided, and there was no return on the resumption of an ordinary diet. In 4 cases the symptoms were much improved, while in 3 cases they could be only more or less controlled. In these cases opium with acetate of lead appeared most serviceable in checking the diarrhoea, the addition of the lead salt appearing of striking benefit. The much better results in the present cases as compared with the cases of our last report may, of course, be a matter of coincidence, and we fully appreciate that so small a number of cases does not justify conclusions of the therapeutic value of remedies employed, but we are nevertheless of the opinion that the use of Styrcol in large doses and for prolonged periods has been of material aid in the treatment of this most undesirable complication of the cases discharged, as also in a number of others still under treatment.

Rectum: One case of tuberculous deep ulceration of a lupus-like form about the anus in an advanced and eventually fatal case appeared much improved, under the use of X-Rays combined with other measures.

In the 4 cases of tuberculous fistula tubercle bacilli were demonstrated in 3. In 2 cases healing without operation was accomplished. One case was improved, and in one case there was no material change on discharge.

Ear: *Otitis media* was present in 3 cases and in one of these the affection was bilateral. Two were cured in the sense that the discharge entirely stopped, and the drum perforations cicatrized and contracted, with material improvement in hearing in one case; the third case improved as to the amount of discharge from the ear.

Eye, Iritis: One case of tuberculous iritis in a moderately advanced case of the lung affection was first supposed to be rheumatic, the patient giving a history of rheumatism. More careful examination later, after anti-rheumatic treatment had failed, revealed distinct military nodules, and on resorting to specific treatment marked local reaction occurred. The tubercles disappeared and the symptoms subsided under the use of Watery Extract of Tubercle Bacilli.

Lymph Glands: In 15 cases glandular tuberculosis involving the cervical and axillary groups, with sufficient enlargement of individual glands to direct attention, was recorded.

In all but two cases local reaction occurred under specific medication. In 5 cases the enlargement subsided entirely, the glands being no longer palpable; in 7 others this was true of some of the glands, while others remained unchanged. In 1 case two axillary glands softened, broke down and discharged, but healing occurred promptly; in 2 cases of chronic indurated glands there was no change.

Mammary Gland: In a single woman, age 25, both glands were tuberculous; also the axillary lymph glands of both sides which appeared

to have been affected first. The mammary glands were tender and swollen, and the outer portion of each was the seat of several movable, indurated somewhat irregular nodes, the largest the size of a small walnut.

Differentially other possible affections were excluded, and the slow development, the lymph gland tuberculosis of the axillary group, as well as unmistakable and frequent local reactions to specific treatment, especially on increase of doses, left little if any doubt of the tuberculous nature, which was further confirmed by the gradual reduction of the nodes until they had disappeared. On discharge no reaction occurred to tuberculin; the patient likewise recovered from her pulmonary disease.

Larynx: Under the classification of the National Association the presence of tuberculous complications removes the case from the incipient or favorable class, which as far as the larynx is concerned would, in our experience, be justifiable only in instances of deep ulcerations, or of extensive superficial ulcerations and infiltrations of its parts. The slighter degrees of infiltration, and even circumscribed superficial ulcerations have yielded in our hands so readily to specific treatment, that we have long ceased to look upon them as influencing the prognosis.

In the present series were 117 cases with tuberculous infiltrations, all confirmed by the occurrence of local reaction to Tubercle Bacillus Extract, or tuberculin, and while in about half the cases the infiltrations were slight, there were numerous instances in which their location and size interfered with complete inspection of the true cords and subglottic region, and yet in no single instance did the infiltration break down and form ulcer.

In 60 of the cases or 51.3 per cent., the infiltration disappeared entirely. In 39, or 33.2 per cent. the size and extent were greatly diminished but more or less thickening was left.

In 18 cases, or 15.4 per cent., the reduction in size and extent of the infiltrations was but slight or barely appreciable, all being cases in which local reaction occurred but once or a few times, without further change. We are of the opinion that in these and other instances there was a natural tendency to a spontaneous cure, and that such a result occurs much more frequently than is usually believed to be the case.

Ulcerations were present in 22 cases of which 9, or 40.9 per cent. were cured; 5, or 22.7 per cent. were improved, the ulceration being in process of healing when the patients left the Institution. There was no change in one case which was treated but a little over a month; in 7 cases, all in the far advanced stage of phthisis, the result was negative.

Taking infiltrations and ulcerations together there were 139 cases or 47.4 per cent., of which were cured 69, or 50 per cent.; improved 44, or 31.5 per cent.; but slightly improved or unchanged 19, or 13.5 per cent.; and grown worse 7, or 5 per cent.

Nose: In six cases with tuberculous ulcer of the nose, one with perforation of the septum, the ulcers were completely healed in 5; and in 1 case the ulcer was healing on discharge.

Peritonitis: There was only one case, with co-existing intestinal tuberculosis, and the patient was far advanced in lung disease and otherwise greatly emaciated and exhausted. The result of treatment was negative and but a short trial was made.

Skin: A case of lupus of the face, with a moderately advanced lung affection was greatly improved in both respects when the patient left the Institution, expecting to return for further treatment.

One case of tuberculosis of the skin was of the true ulcerating variety. The ulcer healed, and there has been no relapse in 18 months since the patient's discharge.

Urinary Organs, Kidney: Two cases of tuberculosis of the kidney were treated. The lung affection was slight in one case and far advanced in the other. In the former case the diagnosis was not positive, inasmuch as tubercle bacilli had not been found in the urine, but the co-existing symptoms made the diagnosis more than probable. This patient remained only two months and left the Institution free from symptoms.

The second case presented all essential diagnostic features with tubercle bacilli in the urine, which on discharge had become free from all morphological elements. The urine could be retained all night and micturition was not unduly frequent during the day. Previous pain had disappeared.

OTHER, COMPLICATIONS.

The following non-tuberculous complications were recorded in 98 patients, or 33.4 per cent. of the total number of 293 cases.

Albuminuria	14 = 4.8 per cent.
Asthma	3 = 1.0 " "
Diabetes mellitus	1 = 0.3 " "
Diazo Reaction	39 = 13.3 " "
Digestive Organs: Colitis	6 = 2.0 " "
" " Diarrhoea, non-tuberculous	6 = 2.0 " "
" " Gastric catarrh	10 = 3.4 " "
" " Gastric catarrh with dilatation ..	2 = 0.7 " "
" " Dyspepsia	64 = 21.8 " "
Heart: Hypertrophy with dilatation ..	15 = 5.1 " "
" : Tachycardia	15 = 5.1 " "
Hemoptysis	6 = 2.0 " "
Malaria	1 = 0.3 " "
Nephritis, chronic interstitial	2 = 0.7 " "
Pleurisy with effusion	1 = 0.3 " "
Pregnancy	1 = 0.3 " "
Syphilis	3 = 1.0 " "