THE BILE SALTS, UREA, ETC., AS THERAPEUTIC AGENTS.

Clinical Lecture delivered at the Medico-Chirurgical Hospital, Philadelphia.

BY SAMUEL G. DIXON, M.D.

Young men, this intrusion upon your regular curriculum of medical study just now, when you are all hard at work preparing for arduous examinations, may not permit you to welcome the remarks I have to make regarding my new treatment for tuberculosis of the skin. However, as I was once in just such a perilous situation I will be exceedingly brief, and therefore trust you will take hearty interest in this, the most momentous medical subject of the day. This expression may sound exaggerated, until you call to mind the fact that one-seventh of the deaths in the human family are caused by tuberculosis. For this reason I have devoted some years to the study of this heretofore almost unconquerable malady. I expressed, in the *Medical News* of October 19, 1889, a probability of producing immunity by inoculations of an involution form of the tubercle bacillus. While engaged in that work, I discovered a toxic substance, produced by or in the tubercle bacillus, which gave most satisfactory results when injected into animals suffering with tuberculosis. (Proceedings of the Academy of Natural Sciences of Philadelphia, November 18, 1890).

This substance, since called tuberculin, was introduced into the human economy by Professor Koch, the results of which are yet *sub judice*. Personally, I have not yet felt justified in using tuberculin in man. My hesitation is due to its extremely toxic nature, and from the fact that I gravely suspect the micro-organism to be capable of spore formation. If so, it is possible that it would grow when introduced into a predisposed tissue, while it would appear dead when placed in the circulation of healthy animals, or those with artificially produced tuberculosis. This may account for the general miliary tuberculosis sometimes caused by its introduction into the circulation of man.

Having these possibilities before me when working with tuberculosis on the lower animals, my object being not only to cure consumption, but also to produce immunity, I recognized the fact that immunity exists in animals which have not had tuberculosis nor been inoculated against the same. At least this would appear to be so in man, when we consider the fact that one-seventh of our people have tuberculosis, while it is fair to believe that nearly seven-sevenths are exposed to the poison. This, most likely, is due to the difference in the constituents of the animal body, and yet we have been quite unable to recognize, either by a microscope or chemical examination, any difference between susceptible and non-susceptible tissues. Therefore, we are, while in this state of ignorance, obliged to look around for something that will indicate a possible difference and follow out any idea that has the least promise of rendering the body unsuited for the tubercle bacillus, or, in other words, for that which will change soil suited for its propagation and growth, to soil in which such growth can not be effected. With this in view, and recognizing that animals leading a sedentary life, and often fed on concentrated food stuff, frequently have sluggish livers, I proposed to introduce the bile salts into the cellular tissues of tuberculous animals. The first

results of this experiment I referred to as early as November 18, 1890, in the Proceedings of the Academy of Natural Sciences of Philadelphia. The taur-ocholate and glycocholate of soda were used, principally the latter, as it is much more abundant in many non-susceptible animals than in animals susceptible to tuberculosis. These salts also should help in the assimilation of fats, and, consequently, aid indirectly in the formation of new and healthy tissue. While these investigations, with many others which I will not now mention, were being worked out, I was looking around for pathological conditions not usually accompanied with tuberculosis, such as erysipelas, and others. Gout, however, impressed itself very favorably upon my mind as a condition that might be temporarily produced without doing injury to the patient, and, possibly, change the soil of tuberculous man, as gout and tuberculosis do not often coëxist.

The first results, based on the theory of the gouty condition being antagonistic to tuberculosis, were obtained in a few small animals, referred to in my article entitled "Reaction of the Amide-Groupe upon the Wasting Animal Economy," *Times and Register*, September, 1890. In these experiments I used each member of the group, creatin, urea, uric acid, etc.

Since my first publication of the use of taurin, creatin, urea, uric acid, etc., I have obtained some most encouraging results. The action of taurin and urea on tuberculosis of the skin will be illustrated by a case, which I will show you to-day as it is under treatment by this group. One of the patches of lupus is practically dead. However, before showing you the case I desire to call your attention to the fact that since I began to use urea, a vegetable substance which might be considered a modification of urea, has come into use abroad as a therapeutic agent for tuberculosis, and, according to the reports, is promising in its action. From the fact that it so nearly resembles that which I have used with more or less success since 1891 I see no reason why it should not produce the desired change. My results, coupled with the favorable reports regarding the action of this vegetable product, thiosinamin, confirm the belief that the truth of my theory of changing the soil with these substances is now about to be confirmed, and we will be able from this on to treat successfully a large proportion of the cases of tuberculosis of the skin and possibly of the lungs.

While my theory has suggested the use of what I believe to be a remedy for tuberculosis in at least one of its forms, further scientific and clinical experience will likely explain the exact action of these substances upon the tissues affected with tuberculosis.

A CASE OF LARYNGEAL EPILEPSY.

BY JOHN KERCHER, M.D.

CHICAGO.

This disease is variously designated as laryngeal vertigo, laryngeal epilepsy, complete glottic spasm in adults, and in an article by W. Peyre Porcher, M.D., in *THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION*, Vol. xx, March 18, 1893, he refers to it as chorea laryngitis. This disease is of interest because there is very little found in our books on the subject; it is also of special interest to the neurologist and laryngologist; to the first because it is essentially a

neurosis (as at present the general accepted view) and to the second because most cases may come under his observation, and because they are most successfully relieved and cured by treatment directed to some part of the respiratory tract, as tonsillitis, pharyngitis, uvelitis, polyps and other abnormalities in the nose, etc.

Dr. Lennox Browne, T. R. C. S. E., 1887, on diseases of the throat, under Chapter xxiii, neurosis of the larynx on page 484, makes reference to nineteen collected cases by Lefferts, Charcot, Gasquet, Kries-hober, Gray, etc. I herewith give the history of a case under my observation:

Patient, male, widower. Wife and children died of tuberculosis one of which died of tubercular meningitis. White, age 42. Occupation machinist. I have known him personally for over three years. General habits: steady worker, drinks perhaps one glass of beer a day, is an active pipe smoker, and often chews smoking tobacco, especially before breakfast. Patient is neurotic from over indulgence in tobacco, especially chewing, drinking often black coffee and worrying over the loss of his family, etc.; often complained of being tired and unable to sleep, often had a dry cough due to chronic pharyngitis, tonsillitis and very lax, slimy looking uvula, aggravated by tobacco and "catching cold;" he often feared the cough to be tubercular, but I found no evidence. Has been under my care often for "biliousness," loss of appetite, and occasionally pharyngitis, tonsillitis, etc., and two years ago suffered from otitis media suppurativa with rupture of the drumhead, and copious discharge of pus, with severe mastoid pain. (This occurred immediately after the grippe). Considered operation on mastoid, but the disease terminated favorably without, under local and general treatment, the drum-head being restored.

Present hearing distance on affected ear as much as four feet, healthy ear two feet. Treatment was also directed to throat at time of ear trouble; has not been troubled with throat so much since as before.

Present illness.—Sunday, March 19, first noticed little tickling in the throat, next day felt little pain on each side of throat in superior region of larynx; no cough, but inclination to swallow all the time. Tuesday and Wednesday worse; somewhat oppressed in breathing, but not bad enough to prevent him from working. Wednesday at 10 A. M. while at work setting up a machine he was suddenly attacked with a complete closure of the glottis; did not lose consciousness, but could not give a description of what transpired as he said his memory was blurred; says he had several spasms, three or four; could not say how long each spasm lasted but thinks all together did not last longer than five minutes or six minutes, may have been ten minutes, during which time a physician who had been called, arrived. The patient was raised to his feet and ordered the hands and arms rubbed (massage) also gave whisky. The physician said the pulse was very high. Patient said he felt like swooning several times after getting over the spasms; felt very weak, also gives history of having had a cramp-like feeling in both hands which was relieved by rubbing, (massage) and trembled in legs and arms after spasms. This sudden attack was not preceded by cough, but felt a little irritation.

Examination two hours after. General condition; Patient is very weak, nervous, constipated for sev-

eral days. Local condition: tongue heavy furr, yellowish, throat irritable, uvula relaxed, elongated, slimy, resting on tongue, tonsils congested, enlarged, entire pharynx inflamed; raw beef appearance with patches of yellowish furr, vessels tortuous, prominent. There was a tendency to spasm upon attempting to examine with laryngeal mirror. Patient never had trouble with nose; is able to breathe freely through both nostrils so did not examine nose. Treatment: advised discontinuance of tobacco, but patient could not leave off smoking altogether. Internally

R. Hydrargyri chloridi, mt. gr. ii.

Fiat in charta, No. 4.

Sig: One every twenty minutes, also cod liver oil 3ss, with 8 gtt tinct. ferri chlor. P. C.

Also for the constipation:

R. Ext. aloes aquosi 4

Ext. nux vomici, 1

Ext. belladonna, 1

Resinocoe podophylli, .50.

Re-fiat pill, No. 60.

Sig: One morning and night; if bowels get too loose, one a day.

As bowels did not act free enough gave occasional dose of calomel after. Locally sprayed with sol. Seilers tablets and had patient use same several times a day, after which a sabalol spray was used.

On the 24th of March, (two days after his first attack) I witnessed two successive attacks on the patient; he coughed previous to the spasm; the cough was voluntary; as he said he merely coughed to keep off the spasm. During the spasms the temporal arteries were prominent, the eyes staring, mouth wide open, with unsuccessful attempts at inspiration lasting perhaps twenty seconds; when respiration resumed it at first was jerky with choking noise in throat, no loss of consciousness. Patient would suddenly arise from chair, open the mouth wide, and pound himself on the chest at junction of sterno mastoid and make attempts at inspiration which was jerky, alternating with attempts at clearing the throat, followed by the symptoms already enumerated. Temporal prominence of vessels, pallor, staring eyes, etc.; there was no clonic or tonic spasm in the attacks that I witnessed. Kept patient on cod liver oil and general tonics and as the pills that I prescribed for the constipation did not act very well and the patient said they made him worse and tied him up, I advised to leave them off and I put patient on rubinant water every morning, which has and is still acting very well; his bowels having improved considerably. After using sabalol spray a few days I changed on to benzoinol with carbolic acid and iodine 2 gr. each to the 3i; during working hours made him carry Seilers tablets with him to use several times a day in solution as a gargle. Spasms gradually disappeared and throat and general health of patient improved with exception of some yellowish white patches in pharynx which I touched a few times a few days apart with salicylic acid in glycerine on a pledget of cotton which removed the patches entirely, but gradually. Patient was under observation from March 22 to May 7, 1893.

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In the *Union Médicale* we find a formula for the preparation of wafers each containing three grains of benzonaphthol and a grain and a half each of poplar charcoal and magnesia. Four wafers given in course of a day.