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AN  
INAUGURAL DISSERTATION,

ON

*Phthisis Pulmonalis*

SUBMITTED TO THE

PRESIDENT, BOARD OF TRUSTEES, AND MEDICAL FACULTY

OF THE

University of Nashville,

FOR THE DEGREE OF

DOCTOR OF MEDICINE.

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1857

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We enter now upon the consideration of a subject which has in all ages of the world vexed the minds of physicians of every country, and upon which a great deal has been said and written: all of which tends to show, the more plainly, the unsuccessful experiments, and disappointed hopes of the investigators.

All attribute to it a singularly uncontrollable obstinacy, and agree that it has long held the first place among the opprobria Medicorum, and that every attempt of the profession to remove this stigma has proved hitherto in vain—

Tubercular phthisis, may be regarded, as not only the most insidious and

dangerous among the pulmonary affections; but as surpassing in its destructive effects, all the other disorders, hydrophaticu excepted, to which the human constitution is liable-

Admitting the incurability of tubercular consumption, it would be worse than absurd for us to let our efforts cease in behalf of suffering humanity; for much may be done to lessen the irreparable evils - and much may be done to alleviate the pain - and possibly to prolong life to an indefinite period -

A disease so varied in its course and extent, as tubercular phthisis is, can hardly be under-

- stood in a definition by symptoms; but the first appearances of ill health which the patient suffers in the early stage are the following:—cough, with scanty-transparent mucus expectoration haemoptysis occasionally; afterwards opaque purulent and abundant expectoration; quiet pulse and fever in the evening particularly, ending in night sweats; shortness of breath gradually progressing; and great emaciation and debility. Hectic supervenes sooner or later—The physical signs are irregular expansion of the chest; dulness on percussion; with bronchial sound of respiration in the upper part of the chest;

cavernous respiration and pectoril-  
ogy. All of which indicate the  
partial consolidation of the lung,  
and the formation of cavities,  
communicating with each other  
and with the arteries —

We will now speak of the anatom-  
ical changes which take place in  
the lungs — They are many, but  
the most common are these —  
The lungs are consolidated more or  
less in irregular masses, they are also  
found excavated into hollows of  
various shapes and sizes, which are  
sometimes empty — and sometimes  
contain a thick liquid matter —

In examining the lungs of per-  
sons who have died of phthisis, we

find in them a number of round hard little bodies, of a light semi-transparent, reddish drab or skin colour sometimes grey or ash-coloured and sometimes devoid of colour and quite transparent - They vary greatly in size from a pin's head to a hempseed - Their hardness sometimes equals that of cartilage; these are the Miliary tubercles - They are sometimes solitary and studding a tissue otherwise healthy but most generally they are found in bunches of several together and then they form considerable masses, with the interstitial tissue indurated between them - They are distinct in the inferior lobes of the lungs - and near the root of the lung, they are conglomerated in

masses. These may be found in them in the upper parts of the lung, yellowish white, opaque specks, generally in their centre, but sometimes in their margins. Now in the distinct granulations, the opaque part is a mere speck; but in the conglomerated masses, the opacity is of considerable size. There is a consolidation of another kind, which is diffused through the pulmonary tissue to some extent, of no particular shape, but occasionally limited to lobules. It is often as hard as the miliary granulations, and sometimes the same colour; but most commonly of a darker hue. And in the centre of these dark indurated masses may be seen now and then opaque light-coloured spots, very distinct, of a dead

yellowish white, something like the mili-  
-ary granulations, - And in these light  
and opaque spot may be recognized op-  
-aque, yellowish white rounded masses  
differing in form and size nearly  
as solid as the dark induration; but  
much less tenacious; - Some are of a  
cheesy consistence; and others are  
found approaching the fluid state,  
retaining still their light colour  
and opacity - These opaque masses which  
are undoubtedly tuberculous, tend to soften,  
partially or wholly; and the masses  
are sometimes found, consisting of  
loose clots in a puriluginous fluid  
or reduced to a curdy kind of puri-  
-form matter. - The tuberculous mat-  
-ter is not infrequently found dif-



fused through the whole extent of the pulmonary tissue, resembling very closely the advanced stage of hepatisation;— And except, that its colour is more varied, and it has, generally, more of the light opacity of tuberculous matter, it resembles very closely, indeed, a hepatised lung.

But what we find what are rarely met with in hepatised lungs, — circumscribed abscesses or cavities containing a fluid matter — And to this softened and fluid state, all the conditions which we have been describing, tend to pass, forming cavities or excavations, various in number and form, and of sizes from that of a cherry-stone

upwards to the extent of the whole lobe, called vomicae;— These vomicae are sometimes found empty, and sometimes they contain more or less of the remains of the softened tubercle or a mixed mucous and purulent fluid tinged with blood—

They communicate often with each other, and with the arteries. The walls of the cavities are sometimes simply the inflamed pulmonary tissue condensed, and sometimes they are lined by a fibro-cartilagenous membrane, formed by a secretion of coagulable lymph, thrown out from the walls.— The membrane is occasionally, very fine and thin, like mucous;— Besides these chief and essential changes, there are many others, which may

be found in the lungs in phthisis; such as  
haemorrhagic effusion, and consolida-  
tion; inflammation and hepatization  
of the lung; inflammation thickening  
ulceration, and dilatation of the  
bronchial tubes or in a word  
phthisis is a constitutional disease and  
various lesions are frequently found  
in other organs besides the lungs.

We will speak of the primary for-  
mation of tubercles, which ques-  
tion is involved in great doubt,  
obscurity and difficulty. The principal  
changes of the tissue of the lung in  
phthisis pulmonalis, may be reduced to two  
kinds - 1st an induration of a greyish  
brown colour, - and 2d a yellowish  
white matter, which is at first hard

but becomes gradually softer until it attains the liquidity of pus. Now if we examine the grey induration, of the pulmonary tissue, which precedes the production of the yellow tubercle, we find two things are remarkable - That there is an increase of substance in the lung; and that its substance is harder than the healthy tissue - the first, denoting the deposition of a greater quantity than usual of the nutritive secretion - and the second proceeding, partly from the same cause and partly, perhaps from an imperfectly animalized or vitalized state of this secretion - This local increase in the nutritive secretion, must have been preceded by a locally increased vascular

action - and from the degree by which  
the increased secretion exceeded  
that of hypertrophy and amounted  
to an overflow and effusion in the  
interstices of the parts, it may be  
that this pathological increase  
was not less than inflammation,  
for it is known that inflammation  
will cause an overflow of the nutri-  
tive secretion - and that the acute  
form will generally produce a soft  
tumefaction, - and the chronic  
form an indurated increase of  
substance, This induration of the  
lung which precedes the formation  
of tuberculous matter, is, probably, an  
effect of chronic inflammation -  
Now, after a time more or less pro-

Traced the incurated grey-mass presents whitish spots, which increase in size, and after a while the whole mass is converted into a substance of a yellowish-white colour, which for a while retains its former consistence but losing it, gradually becomes that soft and grumous substance which has been described under the name of matured Tubercle. This process is analogous to that of suppuration.

But we find Tuberculous Matter deposited sometimes, in a tissue bearing no marks of inflammation at all. This deposition of Tubercle is certainly dependant upon a diseased state of the blood vessels, and of the fluid they contain - Blood which is rich in fibrin, furnishes the more

vital and organizable products which are easily reabsorbed, or if organized are sufficiently like the tissues of the parts not to irritate them, but if the blood be poor in nutrient matter the deposit will be difficult of absorption, and more calculated to irritate it as a foreign body. Now this enfeebled, debilitated, weak, and diseased state of the blood-vessels is characteristic of the Scrofulous or tubercular diathesis; which is recognized, by, pale complexions, narrow chest, soft and flabby muscles and a languid and feeble circulation;—

Remembering the circumstances under which consumption occurs, the causes may be comprehended under

Three kinds - Inherent, predisposing and  
exciting. The hereditary origin of tubercle is  
almost universally admitted by all writers at  
the present day, and it may be considered one  
of its most fertile sources; - And its strength  
is increased if the parents were labour-  
ing under the disease at or a short time  
before the birth of the child; - It may  
descend from either parent, but it would  
seem that the mother exercises the  
greatest influence in this respect, and  
more particularly if she nurses the  
child herself. This hereditary tendency  
may skip over one or two genera-  
tion and reappear in the next. It may  
also be so strong that no care or  
favourable combination of circum-  
stances, will prevent its local mani-



ifestations - and it may be so weak that it will never break out if the exciting causes could be warded off. - The predisposing causes of consumption, are those which tend to debilitate the powers of life; and they appear to operate entirely by favoring the deposition and development of the rudiments of tubercle; - These causes are very numerous of course -

Excesses of all sorts, poor and unwholesome diet, exclusion from light, and from fresh air, and mental depression; previous diseases that injure the constitution, are some of the most powerful. Long continued exposure to wet and cold, the depressing passion; venereal excesses; repeated courses of mercury; profuse and weakening discharges;

All these causes tend to destroy the balance of the functions and lessen the vitality of the system generally.

The exciting causes, of consumption are the inflammations of the chest, - pneumonia, pleurisy, bronchitis &c

Either of these inflammations, when badly treated and only partially subdued, passes into a chronic form and either develops immediately phthisical incumptions in the lung, or by lowering the vital powers, generally, leads to their formation from perverted nutrition;

The symptoms generally presented in a case of phthisis, are, - cough, haemoptysis, dyspnoea, hectic fever, and diarrhoea.

Cough is one of the earliest symptoms

of consumption, and it is that which, for the most part, first attracts the attention of the patient or the patient's friends. - At first it is very insignificant, generally slight, dry and hacking. It occurs much more frequently early in the morning - particularly when the patient first gets out of bed, but we find it very irregular in this respect, it will occur at any period of the day if the patient should make any unusual exertion. The expectoration is at first like the cough, very slight, consisting merely of a little whitish or transparent mucus. - As the disease advances, the cough gradually increases in severity, and the expectoration become more and more abundant and the Sputa are composed of a yellowish coloured matter mixed with pus and mucus,

Haemoptysis may be defined to be a kind of expectoration. The expectoration of blood. It is invariably a symptom of phthisis, but it may occur from many other causes besides that of Tubercle;— It may be caused by mechanical injury of the chest; and also by the derangement of the uterine functions;— But when there is no vicarious menstruation, and no mechanical injury of the thorax, the haemoptysis is pathognomonic of phthisis;

Dyspnoea seldom occurs till towards the termination of the disease; and even then it is not always present;— But although the phthisical patients in general, do not suffer much from dyspnoea, their breathing is always hurried and short;— It is not a symptom of any great moment in the disease

The hectic fever which always accompanies phthisis is of much greater importance; It generally attacks the patient very insidiously, he feels a slight sensation of chilliness towards evening: and in the night his hands and feet are very hot and dry: and in the morning he perspires very profusely.

The symptoms which are most marked in hectic fever, are, the perspiration which is entirely too great for the previous chilliness and heat; and the state of the pulse, which is generally very greatly accelerated, ranging from seventy to one hundred and thirty beats in a minute.

Sooner or later diarrhoea comes on; which is a very common and unfavorable symptom. - Usually, it does not come on until the

disease is far advanced; but when it does make its appearance, it is a source of great annoyance to the patient, and tends, rapidly, to waste away his strength and flesh. The diarrhoea most commonly depends upon ulcerations in the small intestine and colon;—

The physical signs of phthisis are very obscure in the early stages of the disease, and consequently cannot be depended upon.

While the tubercles remain so small as not to encroach upon the air-cells, no alteration takes place in the natural respiratory murmur, and on percussing the chest, the resonance of the lungs is still retained. But when the

tubercles enlarge and consolidate, both the vesicular murmur and resonance are destroyed, and we have dulness on percussion and bronchial respiration. This flatness of sound is generally heard under the clavicle and at the axilla.

As the disease advances and softening of the tubercle takes place, other sounds are heard, which differ in proportion as the tubercle becomes more soft. At first crepitation, then, gurgling. In the last stage of phthisis, when the tubercles have been expectorated and large cavities formed in the lungs, communicating with each other, we can perceive, by the use of the stethoscope cavernous respiration and pectoriloquy, which are almost unequivocal signs of vomicae in the lungs. There is in this stage

usually, a sinking in of the walls of  
the chest, just below the clavicle, and  
other parts of the upper region; gener-  
ally more plainly to be seen on one side  
than on the other—

Thus we have described very imper-  
fectly, as we are well aware, the path-  
ology, causes and symptoms of this  
terrible disease. We have now only to  
speak of the treatment, which  
for the most part, can be but  
palliative. A great deal has been said  
and written, about various reme-  
dies, which have been used in  
the treatment of this disease  
for the purpose of removing the  
tuberculous deposit; but whether  
any real good has resulted from



either of these articles, in this respect, has not, as yet, been well ascertained.

The remedies which have been most praised, of late, because of their virtue, of sometimes, arresting the progress of the disorder, are iodine and Cod-liver oil.

The use of iodine is better adapted to the early stages of phthisis. When phthisis has fairly commenced, that is, when we perceive that a tuberculous action is going on; that the process, which ends in tuberculous secretion is at work, it is then, it is said, that iodine is of great benefit to the patient. But whether this article has any specific virtue, more than any other alterative, we are unable to say. The dose

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for an adult is from three to six  
drops of the solution, two or three times  
daily-

Cod-liver oil, has been used very  
extensively, within the last few  
years, in the treatment of pulmo-  
-nary consumption, and it may be re-  
-garded as a most valuable remedy, and  
one that cannot be exchanged for any  
other known at the present  
time, but whether Cod liver oil,  
does ever cure consumption when  
it is far advanced, and when cavities  
exist in the lung is not known.