Case of Myocardia.

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By

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Cases of Myxedema.

The following paper consists of a record of all the cases of Myxedema I have had under personal observation since commencing practice with a summing up of the conclusions regarding the nature of the disease which I have deduced from them.

A. Cases.

1. Esther Wilde, married, aged about 50 in June 1883 when I first saw her. The youngest of a family, all of whom are now (June 1883) dead except one. Married at the age of 23, and has had six children, two of them stillbirths. All full time. No difficulty in delivering in these early cases, as little from any cause thrown on the cause of death. No miscarriages or abortions. After the second confinement went with her husband to America, where her four youngest children were born. Had a hard life of it there according to her own account, without much money-making or material success on the part of her husband. Was always slender in her habits. The whole family returned to this country about 1876 and her health seems to have given way shortly after their arrival in Summer. Became difficult to put up with in the house, but never actually unmanageable, until, amid the general excitement caused by the fall of the Long Bridge
in December 1879, she became maniacal and was removed to Dundee Royal Asylum. Since then she has had the nature of a Paralytic Senility partly in Dundee Asylum, partly in Perth Asylum, and partly in Dundee Lunatic Asylum, and for the last four years having been "boarded out" in the country. When at her worst she had great delusions about those around her being in league to take her life, and to render her miserable in every way possible, and with these delusions she would become at times perfectly furious. How she is comparatively quiet and pleasant she still is, but still uncertain, and apt to get into fits of temper about trifles. She wishes to get back to her home but would form a most uncomfortable inmate. When I saw her in 1883 the myoccedematous facies was quite unmistakable, with the ramose voice, blue lips, parched dry skin, and swelling of the subcutaneous tissues. She had presented this appearance for at least four years, I was given to understand, but it had never been the subject of thought to those about her, on account of the predominance of the mental symptoms. It was for these latter that I saw her, the time being an interval of a month she spent at home, having been removed from Perth Asylum by the advice of the Superintendent. She was taken back shortly after I first saw her and I saw her no more until a few weeks ago when I visited her at the cottage in
The country where she is boarded. She is now very different from what she was 7 years ago. The memory is fairly good. She is very talkative and communicative, likes to be questioned and is easily pleased with a little attention. There is not, so far as I could make out, any dementia. The memory she has ceased to complain of what she says used to trouble her very much—persistent headache. She sleeps well and eats well. Another symptom, a feeling of clumsiness, as if she was always too thirty, has disappeared for a year or two. The thyroid gland is palpable deep down at either side of the trachea and is harder than usual. There is a slight amount of subcutaneous fat. No senile wrinkling. The upper eyelids where very well the peculiar drawing up and flattening and which, with the blueness of the skin and lips, give what is peculiar to the face. Hearing and sight are fairly good.

Dr. [illegible], about 60 years of age, I regret to say about this case little else than [illegible]. It was in 1883 about a month after I had seen the preceding one, and it was in the absence of the family medical attendant that I was asked to visit her for some digestive disorder. At myoclonus, facies harrow voice, thin hair, failing memory and slight incoordinance of speech—these are all my notes. On referring some time ago to the regular attendant in whose absence in 1883 I had asked, I found that she died about
eighteen months after I saw her with central
gymptoma, death having been preceded by
48 hours coma.

3. Mrs Robertson, aged 48. Gives the
following account of herself. She is the mother
of seven children. 2 miscarriages, and her
sexual life apparently quite normal. She went
to London with her husband and three of
her family about eleven years ago in fairly
good health. Eight years ago the immediate
death of her son, six years old, from a street
accident in front of her own house, gave her
a shock from which she thinks she never re-
covered. She first complained of weakness and
low spirits and six years ago of the swelling
of her body. The weakness has increased since
then, but to judge from her own account
the strength has remained as it is at present
for the past three or four years. The mental
condition for the first three years of her
illness was one which, while it is not peculiar
to Hypochondrias, is very common in the subject.
She was restless when alone, and especially when
alone in the dark, and at these times would
be seized with vague indescribable terrors. There
was no fear of any defined impending calamity,
and there does not seem to have been any
delusion of suspicion, or delusion of personal
unworthiness or worthlessness. To judge from
her description now (for I am speaking of her
date at a former period) her mental condition
at that time might be classed among the
Hypochondrias, but that is only an impression of
mine. The swelling of her body was accom-
Jamied from the first by the peculiar alteration, the cyanotic tinge of the lips and cheeks, and the slow progression which marked her trouble now. Her present condition is not nearly so bad as it has sometimes been. Her size is enormous and she gets along with difficulty. Great part of the swelling of the subcutaneous tissue is due to fat, and now and then so true systemic oedema. I attended her lately in an attack of bronchitis with cardiac weakness and general oedema, and this was only the贯彻ment of a state of things which is never far distant. Any extra exertion will bring on some dyspncea and an increase of oedema. Since she came back to Dundie in June 1889 she has lost her husband from acute phthisis, and a daughter from tubercular meningitis, and the labour and exhaustion consequent on attending on these produced a distinct increase in the oedema which fitted very distinctly at this time. There was at this time no bronchitis. At these times, i.e. when she has oedema, there is sometimes a very slight albuminuria which at other times is absent. I have never discovered any tubercle-casts. Taking into account her size, quite independent of such outbreaks of true oedema, she thinks there is a steady increase and that she is now fatter than she has ever been. This is probable enough, but the post-climacteric deposits of subcutaneous fat may account for the steady growth she has observed. The voice has the usual monotonous, raught, slow, gruelous character. The walk is no more than the walk of a
women of sixteen stone weight, but she has a feeling of weakness about her knees, especially when she is going down a declivity, and is very careful in all circumstances on account of her liability to stumble even on level ground. Her knees-joints are present. There is some formication and numbness occasionally present about the lower extremities. Sleep is poor and is disturbed by dreams. The thyroid gland cannot be felt. Sight and hearing are fairly good. Her mental condition is perhaps, on the whole, better than it was some years ago. The sickness and deaths in her family we doubt had her last summer, but the emotions seem to be blunted, and while the excursions taking into account her state of health, were not spared, and her nursing duties were wonderfully well done, the deaths of her husband and child within a few weeks of each other were not felt with normal keenness of sorrow. This blunting of the emotions is but a faint instance of the effect which the disease has had upon the whole mind. It is engulfed all over, so that I think it doubtful whether she is capable of experiencing the more acute and unpleasant mental symptoms which marked her state some years ago. She has of course plenty complaints. She talks at the usual length (a length, I may remark, which makes the careful investigation of the symptoms in a case of Myxedema, as such, to be undertaken only when the practitioner can spare an hour or two without inconvenience.) She repeats her sentences in an automatic manner and she is fond of dwelling on
She has. But she is capable of being cheerful in a small way, and takes a fair interest in her neighbour's affairs. On the whole I doubt if the Myxedema will do her much more harm than it has done. The morbid process seems to have spent its force, and though the brains cannot recover, the disease hardly appears to be progressive in the proper sense of the term. It would be a bad subject for any acute illness such as pneumonia or nephritis or erysipelas, and her constitution is to that extent weakened, but that is all.

This is not always the case with Myxedema. If there is the tendency to haemorrhage which has been observed, (but which appears to be an idiosyncrasy of particular cases rather than an essential part of the disease) this involves a definite danger to life. If the central affection which carried off Dr. Dewar, the second case on my list, was haemorrhage, it was possibly a direct result of the Myxedema. But in Dr. Roberson's case there has been no such tendency, and her cardiac weakness is the only influence tending at present to distinctly shorten her life.

Dr. John Clark, married, 40 years of age. I was called to see her in September of last year in the absence of her usual medical attendant (who had not up to the time that I saw her diagnosed the presence of Myxedema). The immediate complaint for which I was consulted was a slight "cold" and appears to have been merely an exacerbation natural at that time of the year of this usual
subjective feeling of coldness which all these patients
are more or less conscious of throughout their
illness. She is the eldest of a family of nine,
and is herself the mother of four children, whose
ages range from 17 to 8 and all of whom
appear healthy. Her husband is alive and
lives thoroughly healthy. Was the greater part
of her life lived in the country. No miscarriages,
but has had poor health for last fifteen
years. About that time ago the sight of
the left eye began to fail, with severe headache
and pain in the affected eye. The
failure passed on to complete blindness five
years ago. Two years before that the sight
of the right eye gave way with similar symptoms
and this too has resulted in blindness all
but complete. About four or five years
ago, maybe longer (it is always difficult to
tie down to a year or two the commencement
of a myxoedema) she began to swell about
the face and limbs with change of voice
and growing irritability of temper. (During
all these years has taken large quantities
of iodide of potassium, this being used chiefly
in connection with her eye symptoms).
At present her condition is as follows. Has
myxoedematous facies. Teeth good. Hair thin
and wiry. Skin dry and scales, her stockings
sometimes being encrusted in the lining of
quite a quantity of brass scales. Hearing is
good. The eye symptoms are peculiar. In
the left eye the iris is gray and blurred,
adherent all round the margin of the pupil.
Pupil about 2 mm. in breadth. Pupils
cannot be illuminated. Right in this eye
is absent altogether. In the right eye the iris is grey and blurred slightly, adherent at one side. Pupil about 4 mm. in breadth, and can be dilated with atropia to 6 mm. A good view of the fundus is obtained. The disc is a dead bluish white with a large posterior staphyloma surrounding it on all sides of an average notable its own breadth. The vessels appear normal. At the extreme periphery of the fundus there are large deposits of black pigment visible like those of retinitis pigmentosa. In the middle distance there are similar smaller patches of pigment situated in the midst of brilliantly white patches of choroidal atrophy. With this eye the only vision possible is that she can distinguish the position of the window in a room or the place where the lamp is in the evening. The swelling of the subcutaneous tissue is not so marked as in Mr. Robertson's case (Ps 3) and is probably dependent only to a small extent on subcutaneous fat. There is not much wrinkling of the brow. The cyanosis is very distinct. The feeling of cold is constant and the susceptibility to changes in the temperature is extreme. The tongue is large, dry, smooth, and the appetite is poor. For some days before I saw her the first time had haemorrhage from the bowels—probably from the rectum. She complained of this frequently during the past two or three years. The mental condition is fair. Taciturn and long-winded, had no delusions or suspicious. Disturbing dreams but no morbid terms. This case admits of more enlightening comment than I am in a position.
to give. It is about as nearly certain as it can ever be that the irido-chorioiditis from which this patient has suffered has not been due to syphilis, and, syphilis apart, the causes of the affection are practically unknown. "It is frequently met co-existing with affections of the general health, in women in conjunction with painful menstruation, after premonitory fever, during pregnancy, and at the change of life." (Thayer's Practical Treatise on Diseases of the Eye. Translation p. 206.)

The disseminated form of chorioiditis is also frequently congenital without a suspicion of syphilis on the part of the parents. These varied coexistences with chronic chorioidal affections while they are of too vague a character to be of much interest to the ophthalmic surgeon are not without significance in the present connection, for they point obscurely enough but just as clearly as the subject will allow, to this, that the associations of the disease are with disturbances in the developmental arrangements of the organism, and Dryxoderma itself is such a disturbance.

5. Mrs. Davis, married, aged 39. Was one of five children. Is herself the mother of eight. Her history is as follows: She was married at the age of 22. After the birth of her first child which only lived a fortnight and died of "croup" she was ill for three months with "inflammation." She was treated for the first six weeks with mercury and for the remainder of the time with opium. (In consequence of the mercury..."
Treatment she says that all her upper teeth came out) she then had three children all healthy and all still living. Then came four who all died, one at a fortnight with "croup," one at seventeen months with "whooping cough and measles," and the remaining two at about three weeks or a month with "Diphtheria." The last child was born three years ago. She came to Dundee from Falkirk 7½ years ago. In the last year or two that she spent in Falkirk S. Hamilton used to look in upon her as passing and advise her to take twenty-five drops of Laudanum "just to stead her system." During that time she had "an inflammation of the head" for which she had five leeches in the frontal region. (I give all these fragments of her conversation for the purpose of indicating that it was about this time that her some serious disturbance first manifested itself, and that at that time probably mental symptoms were in the foreground.) Her weakness has been growing more defined during the last three years. The following is a record of her condition on December 2nd, 1889. She is a prematurely old-looking woman with a wizened appearance, blue pale lips, and yellowish dry skin. The forehead is deeply furrowed, and there is some thickening about the eyebrows and also nose. There is no perspiration. The nails are brittle, especially of the thumbs, where they are very much broken off at the edges. Hair has fallen out to some extent, and what is left is dry and hard. There is no change in its color. The teeth are carious especially in the upper jaw. The mucous
membrane of the mouth, tongue, rectum, and vagina is of a purple colour. There is extreme constipation, a frightful sometimes clamping before there is any movement of the bowels, and even then only with purgatives. The urine is normal. There is numbness and analgesia of the hands, arms, feet and legs. She volunteered the statement that she could thrust needles into them without any feeling. The fineness of the sense of touch is impaired. The hands are large and badly shaped. Serpuloidic attacks are very severe, especially with any change in the weather. The movements are slow and gait is tottering. The voice is feeble, monotone and rough. Very aphasic and indifferent to her surroundings, but her memory is good, and on one subject — her ill-treatment from her husband — her mind works briskly enough. The thyroid gland is not perceptible, though the neck is very thin, thinner than in any one of the other cases here recorded.

6. Mrs. Catherine Laird, aged 45. First seen on 11th June 1887. Has led a somewhat irregular life. An illegitimate son is at present serving a term of five years in the Beldraye Reformatory School. The woman herself was an inmate of the Dundee Royal Asylum from 14th January to 4th September, 1882. She was admitted (I am quoting a letter which I received from the Superintendent, Dr. Rowie) suffering from "acute mania apparently a fistula. She had broken open a night-piece door declaring murder was being perpetrated in her house, and
"accusing a young man to whom she was to be "married of being the murderer. She had been "drinking heavily since the New Year. In "addition to the above delirious mentally was very "confused. Gradually got well. Left on trial "f. August, and discharged 1st September." After coming out she married her present husband "from whom however she soon separated by "his desire—in fact, he left her. Was known "to the neighbors as a quarrelsome, delirious woman "of an uncertain temper and liable to "outbursts of excitement. Her own story is "that she swelling and weakness from which "she at present suffers date only from two "years back. It began with the swelling in "the arms above the elbows, then over the "forearms and hands, then over the chest, "feet, and ankles. She has a stupid, heavy, "hypochondriacal face. The swelling is "marked over the whole body and feels very "slightly on pressure. The surface feels cool. "Her utterance is slow, monotonous, and "with the characteristic roughness. Her "hair is well kept but is dry and harsh. "Has a very unpleasant breath in the mouth, "the tongue is large, flabby, indented, with the "teeth. She has occasional vomiting in the "morning. The bowels are very constipated. "The abdomen is uniformly swollen, the "circumference at the umbilicus being 40 "inches. The liver dulness extends 1½ "inches below the costal margin and the "splenic dulness is slightly increased. The "kidneys are not palpable. The pulse is "64 and compressible. Valves of the heart
healthy. The respirations are 17 and the lungs appear normal. The urine is about 60 ounces of a Gr. G. 1006 with a deposit of oxalate and no albumen. The nervous system appears normal to all the usual tests for organic disease. Mentally she is dull. She cannot be troubled speaking to any one, and persists in saying that she is quite well, that there is nothing the matter with her. The pick of some sentence here and there to express her meaning and will come over it again and again. Such sentences as "I'm quite well," "I've one child—a boy," "I'm taking my food very well" are instances of what I refer to. She remained under observation for about 10 days and then left the Infirmary in a whim. The duration of the disease in this case is doubtful. There is really no certainty that she was not suffering from Dystrophia when admitted into the Asylum in 1882, for it was not till 1884 when Dr. Arthur Mitchell pointed out to the medical authorities there Drs. Murray (Catherine Ritchie) my first case, as a case of Dystrophia, that the disease was recognised there. The symptoms of mental disorder may well have been hurried forward by drinking so as to present them selves even earlier than usual, and we have seen from the previous cases that the mental disorder is frequently more severe early in the history than later. The special features of the attack also are not inconsistent with this supposition.
7. Mrs. Young, married, 36 years of age. The fifth of ten children. Brother of 5 children herself, and now nearly at full time with a sixth. Has also had one miscarriage at the fourth month. Has been complaining of her present weakness for two or three years past. Has characteristic myxoeedematous facies with hoarse voice. Swelling moderate. Complains of constantly feeling cold with a subjective sensation of swelling around the neck. Sleeping well. Taking food fairly well. Bowels are regular. Mentally she has no complaints except that she feels very irritable now and is easily excited. But her neighbors do not complain of her. She knows of nothing to which she attributes her present trouble. The chief note of this case arises from the fact that I only saw it a few days ago. My friend, Dr. Charles Brown, mentioned that he thought he had a case of Myxoeedema in a woman who was far advanced in pregnancy. I asked to be allowed to look at it, and he kindly gave me permission. It is not simple, as an additional case that it is inserted here, but as being a case in a woman of thirty-six years of age in whom the myxoeedematous process has apparently had no effect on the childbearing functions.

8. M. Ann Thin or Dobie, age 71. Father died of erysipelas. Mother at age of 84. A sister of heart disease, three sisters of various unknown causes. Has
one sister living and healthy, younger than myself. Has had no family. Has always been somewhat asthmatic. When thirty years of age had facial erysipelas, and this recurred several times, the last being about 7 years ago. Twelve or fourteen years ago had a serious illness accompanied by sickness and "swelling across the cheek." The doctor who attended her said she was afraid of "water"—so she says. She recovered and went back to work, which however she had to give up about eight years ago, being too slow for mill work by this time. As she was 63 years of age at the time, I attribute no special importance to this. She then came into Dundee Poorhouse where, by the kindness of Dr. Whyte, the Medical Officer, I saw her. In the Poorhouse she was usually able to take some share of the work, especially at the weaving. And, till a year or two ago, in May 1888, she has been more or less in hospital, but only for a time confined to bed, through an attack of catarhal pneumonia of the right breast. Says her speech has been thick for many years—ever indeed since the loss of her teeth. No further light can be got on the duration of the disease at present interesting us. The face is swollen and the natural contours melted out. The cheeks and lips are flabby and the rear of the face wax-like. The oedema is very marked, but is assisted by sub- cutaneous fat to a considerable extent.
There is slight pulsation on pressure behind the ankles. The voice is feeble, rough, and "cracked." The thyroid gland is not to be felt. Sensation is dull and voluntary movements slow in inception. She takes 2 or a considerable time to get up from a seat. The intellect is clear, the memory defective. The teeth are all gone. Hands and feet are generally cold. Temperature subnormal. The urine is clear, pale, pH 1014, with albumen. The quantity is about 25 ounces. The salivary secretion is sometimes excessive, sometimes very scanty. The lacrimal secretion is generally excessive. There is some tendency to haemorrhage here and there. A week ago there were three patches of discoloration on the face from subcutaneous haemorrhage. Thirty or forty years ago patient remembers that she bled very profusely from trifling cuts. Heart normal. Drugs show nothing but middle cascara over both cases. The date of this case was taken in the beginning of December 1889. About the beginning of February she appeared to be getting weaker with more cough and with both sides of the chest more full of mucus. This went on, the patient gradually getting worse until the middle of March when she got much worse, but apparently only with the symptoms of cardiac and senile failing and died after two or three days semi-coma. Dr. Wipple kindly allowed me to make a P.M. examination. There was a group of puckered cicatrices at the apex of the right lung with some calcareous matter.
lying beneath them. From this one centre apparently the whole three cavities of the body had been infected with military tuberculosis. The brain was atrophied (semito) and the pia mater adhered over with tubercle at the base. Both pleuræ and the substance of both lungs had military tubercle. The peritoneum was very much thickened being about a third of an inch at some places and plentifully studded with recent tubercle. The thyroid gland was converted into a firm nodular mass of fibrous tissue about the size of a walnut on the right side and rather less on the left. On microscopical examination I could discover nowhere any trace of remaining gland substance, nor even any of the groups of cells which are described as being the representatives of the gland acini in many cases of fibrous degeneration.

The foregoing cases are all I have had under personal observation. But to complete the statement of my acquaintance with the subject, I may say that in addition I have seen two cases in Birmingham Asylum in the winter of 1880-1, one case under Professor Greenfield in Edinburgh Infirmary in the winter of 1881-2, and one case under Dr. J. B. McLeod in Dundee Infirmary about 1886—making with those I have described on at least twelve in all.
B. Conclusions.

If I may judge from my own experience Dystrophia is by no means a rare disease — certainly commoner than any of the primary ulcers of the spinal cord except perhaps Locomotor Ataxia, or than abdominal aneurism or than Leucocythaemia. And I cannot think this experience gives a very incorrect reflex of the prevalence of the affection. For of its incidence the numbers in hospitals give as yet an imperfect idea. Cases of Locomotor Ataxia or Abdominal Aneurism or Leucocythaemia can hardly fail if they occur among the lower classes to find their way into Hospital: for complaints like these all for some reason or other come for advice to a medical practitioner, who recognising them and does all in his power to get them for a period into a Hospital.

But Dystrophia does not always come under the physician's eye. Though popularly it ranks as dropy, yet the mental peculiarities of those affected, which never escape observation, lead the relatives to put down the dropy to the weakness attendant on a final breaking up of the system, and among the lower classes there is no strenuous effort to prolong the life of those of their number who, when past the childbearing age, show symptoms of breaking up. The doctor is not called in in consequence until some complicating disorder immediately threatens life, and
at the same time obscures the diagnosis. But even were he called in at an earlier period the number of practitioners who have learned to recognize such cases is yet small, and the chances are that the diagnosis will be missed for in most instances for some years to come.

As yet the cases do not come of their own accord to the practitioners, are not thought by the anxiety of friends, and are not always detected when they do come. So there is some ground for saying that the hospitals which are filled from the working class families of the practitioner's patients do not represent fairly the actual incidence of Phycopedema in the population.

Neither can any conclusions be drawn from observations in asylums. For though almost all show mental peculiarities, it is only in a few that these depart so far from the normal as to require restraint and exclusion. Only two of my cases (Nos. 1 and 6) were at any time inmates of asylums, and in only the former of these was the insanity coexistent with the other symptoms of Phycopedema and clearly due to the general constitutional condition.

The interest of Phycopedema is a peculiar one. It is a unique a disease and the study of it, so far as we can pursue it at present, casts so little light on the questions of general pathology, that few workers at any branch of Medical Science will be led to it in the natural order of
The complex of signs and symptoms marking the disease presents little difficulty to diagnosis; and there is no use made of the numerous methods of physical examination which reveal to us a body of knowledge of which those outside the medical profession are wholly in ignorance, and in the systematic practice of which lies a great part of the charm of our calling. It runs the risk of being simply a curiosity, and it is necessary to cast about pretty widely before we can take it up into the circle of medical knowledge.

As a Clinical Entity, it is admirably named Cachexia Strumipriva, which, if applied to Hashimoto's is at once a name and a definition, and is actually as good and as complete a definition as our knowledge at present permits. Beyond the fact that in these cases the Thyroid Gland is placed out of function—it does not matter whether by atrophy or by fibrotic degeneration—we know little else that can be demonstrated by the microscope. The circulation is feeble, the skin and subcutaneous tissues have undergone changes which may be briefly described as degenerative, and the psychical characteristics have altered so much as to make of the patient another personality, altogether in the eyes of those around her. This may be illustrated by the case of Miss Robertson. Born and brought up in Dundee, she spent many years in London,
and on her return to her native town, her sister, who had never seen her during her whole absence, could not recognize in her any one of the personal characteristics she was familiar with twelve years before. The only analogue which can be found along this would be the change which sometimes passes over a boy or girl between the ages of 14 and 19—the years in which the alterations in the physical development take time to fully reflect themselves in the character.

All these features of Myxœdema have a pathology and a morbid anatomy somewhere, and the absence of the normal tissue of the thyroid gland is quite likely enough the prime mover of all these changes. But how it affects the changes, and how the alteration in the physical and mental characteristics surely follow, are questions to the answers to which our present methods of research give no help. Ray, more. The whole cycle of changes is of such a character as to render it improbable that our present science of pathology ever will explain it. There is no other disease at all like Myxœdema in any close way. Addison’s Disease comes to mind when we remember that in this the function of the affected organ is equally unknown and mysterious, and the result of disease in the same almost equally widespread; but even in Addison’s Disease it is conceivable enough that
if we knew more of the supra-renal capsules, we should possess a fairly
rational notion of the morbid process; while it is doubtful if a knowledge
of the functions of the thyroid gland
would cast much light on Myxedema.
It is a degeneration of the
whole organism. On the physical side
there are no changes which exhaust the
vital powers and lead surely to death.
The eighth case on my list, though
seventy-two years of age, died from
miliary tuberculosis, which would kill
anybody; the third case is now
affected with cardiac dilatation, to which
any woman in the second half of
life is equally liable; the second case
died probably from cerebral haemorrhage.
But undoubtedly the system is weaker
to withstand the attacks of illness,
and the life of cases of Myxedema
is a precarious one after the estab-
lishment of the disease.

On the psychological side there is
distinct involution. The capacity for
readily reacting in a rational way to
external stimuli is impaired along with
the powers of memory, of reason, and
of will. The feelings and emotions
lose their keenness. The woman
becomes garrulous, willing to tell her
while history at great length, remembering
fairly well what has taken place long
ago, taking less note of the present.
In short, instead of the mental charac-
teristics of 40 or 50 she has those of 75, 80, or 85. It is not so easy to follow the senile type when the patient becomes actually insane. Delusions of suspicion with maniacal outbursts seem to be the commoner manifestations in these cases. But my impression is that actual insanity is a transitional and temporary phase in the mental history of Hysterectomy.

It would be very difficult to connect such a series of changes as those with the condition of any of the organs of the body. To connect them, that is, in a rational way. We connect the changes of puberty in the male with the maturing of the generative organs, and if the testicles are excised before puberty we know that these changes do not occur. But how the growth of the testicles influences the nutrition of the skin we do not know, and our present physiology is not within sight of a solution of the problem. The cause of Hysterectomy is equally obscure, and the predominance of cutaneous changes in both is a circumstance which is more than a mere curiosity.

Finally when two place side by side the mental changes of puberty and those of Hysterectomy the developmental significance of both comes out very strongly. In the former the differentiation
of the mental structure—the psychoplasm—is completed and we see what for good or for evil the man or woman is likely to become. In the latter regression is so marked that in a year or two the affected person becomes practically useless as an effective working unit in society. There is an apparent sameness in the mental condition of all cases of Myxoedema, but that is probably due to the distance from which they are viewed. They have probably as many individual peculiarities inter se as are possible at the very much lower physiological level at which they find themselves. The conclusion of this thesis then is, that, while the maturity of the generative organs is necessary to bring about the evolution of the individual at puberty, the integrity of the thyroid gland is essential to the full development and maintenance in perfection of his bodily and mental characteristics.

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