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EIGHT

CASES OF MELANOSIS,

WITH

PATHOLOGICAL AND THERAPEUTICAL REMARKS

ON THAT DISEASE.

BY WILLIAM NORRIS, M.D.,

CORRESPONDING MEMBER OF THE EPIDEMIOLOGICAL SOCIETY, &c., &c., &c., STOURBRIDGE.







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EIGHT CASES OF MELANOSIS,

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Melanosis, so named by Laennec from its black colour, is a novel, curious, and interesting disease, and often occurs in those persons who have moles on various parts of the body. The vessels nourishing some species of moles and warts seemed possessed of peculiar power, and they cannot, I think, be in a healthy condition; they sometimes take on a peculiar morbid action, contaminate the blood in the adjacent vessels, and soon tinge the skin around of a dark brown hue. In this stage, perhaps, the disease is purely local; but if this disorder of parts is not speedily checked, these excited vessels soon taint others farther around, and various-sized tubera are formed; and when much of this melanotic fluid gets into the blood it appears to have a wonderful power—a power to contaminate the whole circulating fluid; and then, like the virus of small-pox, is deposited in large or smaller masses, almost in every structure of the body.

Most of the cases I have seen of this disease, and many of those reported by acute morbid anatomists, have occurred to patients residing in very smoky iron and coal districts, where iron manufactories abound, and the air is constantly polluted by volumes of black smoke; or in large towns, such as London, Manchester, &c.; or in men who have smoked immoderately; and in the wives and daughters of those who, living in the same apartments, have inhaled fumes of tobacco from parents or husbands. I once bled a young medical man, an intemperate smoker; the blood was quite black, which frightened him. I told him it was from smoking; he prudently desisted from the dangerous practice, and his blood became more natural.

The glands of the stomach have the power to make a secretion like coffee grounds. The sputa from the bronchial glands from persons in smoky districts is often black, and the cellular substance, when wounded by a piece of coal, is marked by an indelible blue stain. I have seen

numerous colliers thus stained in many parts of their bodies.

Is melanosis a new disease, or an old disease in a new form? Is it the tuberculated sarcoma of former years—the same virus flowing in the blood commixing with a superabundance of carbon? If so, the change made by the addition of carbon seems to have the power of making the cancerous virus somewhat milder; for the constitution certainly appears to suffer less from the local disease than in other forms of cancer; the pain less excruciating, for often when organs are affected there is but little disturbance in their functions; and it would appear, also, it has the power to stimulate the secreting vessels to deposit the disease in more organs and tissues than any other disease affecting the body.

The disease came into notice the last half century, and since the population has increased it has been seen more frequently in England, though still a rare disease; and I may mention that the disease has, in some measure, kept pace with the fashion for smoking and the wonderful increase of iron works, manufactories, &c.; and, as I have stated before, densely-populated, smoky districts, favour the development of the disease.

In a case I have reported in former years, where melanosis affected almost every organ, the first tumour removed was not black; it was more of a scirrhous character; a second tumour sprang from the cicatrix, and, during life, put on a similar appearance to the first; yet, after death, it looked perfectly black. My patient's father had numerous tubercles at the back of his neck, not melanotic; they were cauterized, and he soon died. The daughter of the melanotic patient came from Wales to me, with a hard cancerous kind of tumour in the breast. The eldest son had an enlarged hardened cancerous kind of lip and mouth, and went from his home to the Island of Jersey to die.

The youngest son had many moles, and one in exactly the same spot

where the disease in his father first originated.

My melanotic patient had two brothers, and they told me they were marked with numerous moles.

I think the facts I have now related show a strong tendency to hereditary predisposition, and that melanosis is a disease nearly allied to cancer; that one of a family may have pure melanosis, and other members of the same family may have tumours of a cancerous character.

Until lately, most authors believed that general melanosis only occurred in persons after the meridian of life. Mr. Oliver Pemberton, in his excellent pamphlet, has related several cases that appeared before the age of thirty. I can only find seven or eight well substantiated cases in

early life—one in my own practice in a young woman, aged 24; another published by my old friend and colleague, Mr. Lloyd, of Bartholomew's Hospital; and in most of these early cases the diseases began in the skin, though I must not omit to mention it has occasionally appeared in the eyes of children and in adults. I shall now proceed to describe some of the most interesting cases that have occurred in my own practice; and although Mr. D.'s case has been published before, and was, I believe, the first genuine general good case, affecting the heart, membranes of the brain, and most of the vital organs, described in this or perhaps any other country, I shall endeavour to give from notes, and from conversations with the gentleman who kindly assisted me in the post mortem examination, a more minute account of symptoms during life, and of morbid appearances after death; and I am desirous to republish it, because I understand it has excited some interest on the Continent; and Mr. Cliff, late curator at the College, told me that a Russian doctor, one of the favourites of the Emperor Alexander, begged a drawing of the melanotic heart, and said he would not part with it for half his museum. I wish the zealous man could have seen the corpse of my patient; the body, externally and internally, almost appeared one diseased mass.

When the abdomen, chest, and cranium were thrown open, it was a most extraordinary phænomenon; thousands upon thousands of coal black spots, of circular shapes and various sizes, were to be seen closely dotting the shining mucous, serous, and fibrous membranes of most of the vital organs: I should think the most dazzling sight ever beheld by morbid anatomist. I shall never forget the pleasing thrill that came over me when I first beheld them. It would have puzzled the most powerful descriptive talent to have done full justice to such a novel and striking disease, displayed so beautifully in endless profusion everywhere.

I was requested to make only a slight examination, late at night; whereas, if time had been allowed to have searched more minutely, it is my firm belief that those organs that appeared to be free externally, if they had been examined internally, the disease would have been found in some form or other; and most probably the internal coats of many arteries and veins, joints, sinews, nerves, and other tissues, participated in the diseased action, for I can scarce think it possible, with such pure melanotic blood, flowing for such a period, at an age favouring the development of the disease, that any structures could escape being contaminated more or less.

Case 1. February 6, 1817. Mr. D., atat 59, of light hair and fair complexion, apparently in good health, applied to me in consequence of the inconvenience he felt from a tumour, situated nearly mid-way between the umbilicus and pubes. He told me there had always been a mole exactly in the same spot, and that, nine months ago, the skin around this congenital mark assumed a brownish hue, and slowly from

this mole a tumour began to arise. On examination, I found the swelling was nearly of half the size of a hen's egg, of a deep brown colour, of a firm and fleshy feel, ulcerated on its surface, which discharged a highly fœtid ichorous fluid. The apex of the tumour was broader than its base. Some few months after the appearance of this tumour, several distinct brown nodules of similar structure sprung up around it, some with slender necks, others with broader bases. This singular production gave him pain and uneasiness, and was at length removed by the knife; and the wound went on favourably, and slowly healed. In less than six weeks, from the cicatrised surface, the tumour again began to grow, and felt hard and semi-cartilaginous; and very soon tubercles of a livid colour surrounded the tumour, some of them separated from and others growing into each other. Of the latter sort there were at least forty in number, forming a mass of disease extending nearly from the spine of one os ileum to the other, and bearing some resemblance to a large bunch of dark-coloured grapes; some of them flattened on the surface, and of various sizes. The prominent scirrhouslooking tumour, about as large as a moderate-sized apple, occupied the centre; the tubercles already formed progressively increased, while fresh ones arose in their vicinity. The glands of the groin were swollen, and slightly tender to the touch,

This disorganisation of parts was effected in two months, and continued to increase after that period. Yet the general health of the patient was not so much impaired as to prevent the regular use of exercise, nor did it interfere with the pursuits of business. Pains occasionally affected the tumour and other diseased parts, and an early and continued symptom was an excruciating pain complained of below the left kidney. The urine at times resembled porter, and deposited a lateritious sediment. At length the constitution began to suffer more severely, and now the countenance assumed a faint lurid hue; nausea and loss of appetite gradually came on, accompanied by restlessness and excessive depression of spirits. Dark blue spots arose in the vicinity of a mole on the sternum; others appeared in succession on the sides of the body and on the back; and very soon the forehead and scalp were disfigured with the same morbid appearances. The whole body seemed to participate in this disease of structure, and to preclude all hope of relief from any surgical operation, and to leave no resource beyond palliative treatment. With reluctance, therefore, I felt compelled to leave him to his fate. Gradually increasing dyspnœa came on, along with a cough, daily augmenting in severity.

The constitution suffered more severely, almost every function more or less impaired, and the patient very soon unable to leave his bed-room. All that art could do was, if possible, to alleviate his sufferings, which were excessive; but the relief that could be given was only partial. He

was advised to take large and repeated doses of extract of hyoscyamus and poppy, which diminished the distressing cough and dyspnœa. He loathed animal food, as well as fermented and spirituous liquors, which only added to his feverish heat and restlessness. He frequently complained of heat, though the temperature of the skin was not higher than natural; and though his feet felt to my hand perfectly chilled, and his pulse scarcely perceptible, still he was incessantly requesting to be fanned. In this miserable state, the half-sitting and half-recumbent posture was the least irksome to him. Symptoms of general dropsy had for some weeks shown themselves, and these were soon followed by an increase of restlessness, cough, and difficulty of breathing, until death closed his miserable existence.

Appearances after Death. On making an incision through the original tumour, I found its structure to be heterogeneous; it was of a dark brown and reddish tint throughout, not very unlike the internal portions of a nutmeg. The newly-formed tumour, though during life it appeared in colour and consistence much like the first, with the addition of a few black spots, after death it exhibited a true melanotic appearance. On puncturing a considerable number of tubercles, a thick black fluid was discharged from them.

Having described the external appearance of disease, as they successively arose on the surface of the abdomen, chest, sides, back, and head, I will now describe the morbid phænomena within. On making an incision from the upper extremity of the sternum and exposing the ribs, a tubercle was found near the angle of one of them. By a division of this black morbid growth, it was evident that the disease was not confined to the periosteum, but had extended to the very substance of the bone; for I tried in vain to cut it away with the knife.

On continuing the incision towards the umbilicus, numerous dark spots were found dispersed through the cellular substance. On opening the abdomen, I found numerous similar tubera of various sizes. To the eye of the morbid anatomist it was interesting to behold the tumours scattered in the utmost profusion in every direction; upon the transverse arch of the colon, omentum, mesentery, stomach, and the large and small intestines; on the first of which the spots were exceedingly numerous. dissecting downwards I found a mass of disease which proved to be the lumbar glands in a shockingly morbid condition, and suddenly outflowed many ounces of dark fluid, in colour something like tar, but in a more fluid state. The pancreas and mesenteric glands were diseased in a similar manner to other organs; and the liver was much enlarged and of a very dark brown colour, and so altered in its structure as scarcely to be recognised. Its surface was studded with large oval masses of the disease, and its substance throughout was soft and pulpy. Slight tumours of the same nature were manifest in the organization of the kidneys. The spleen and bladder appeared to be the only organs exempt from the influence of disease in the abdominal capacity.

On examining the chest, a still more extraordinary appearance was observed. The lungs were on both sides thickly mottled in large and smaller masses throughout the greater part of their texture. The same mottled appearance was still more vividly displayed on the heart, and the specks more minute, more numerous, and distinct; the heart was almost literally encrusted with them, and the tubera were from the size of a pin's head to that of a pea. In fact, in every part of the heart minute deposits of melanotic substance were to be seen. Some of these deposits are beneath the pericardium, others beneath the membrane lining both the auricles and ventricles, and others are imbedded in the muscular substance; some minute black spots are seen beneath the lining membrane of a portion of the vena cava superior, which is attached to the heart. The pericardium and arch of the aorta partook of the disease in a fainter degree.

I deeply regret we were not allowed more time to minutely examine the arteries, veins, muscles, glands, bones, &c., as many of them most probably participated in the diseased action. There was about a quart of fluid in the abdomen, nearly a pint in each bag of the pleura, and

perhaps two ounces in the pericardium.

On dividing the scalp, many of the same diseased appearances were observed on the skull-cap, and on the fascia covering the temporal muscles. The dura mater was also studded with them, though much less numerously than the mucous and serous membranes. The ventricles of the brain were nearly filled with fluid. The brain itself, as far as we were allowed to examine, was apparently healthy; and, with the exception of one speck on the leg, the extremities were free from the disease.

Mr. Causer, a surgeon of this town, my early preceptor, attended the patient once with me, and told me he well remembered attending his father, more than thirty years before, for a number of small tumours, not black, that appeared between the shoulders, which were severely cauterized, soon after which death took place.*

Although I published this case thirty-seven years ago, I am desirous to republish it, because I have gleaned a few more facts connected with the case, and have attended since some of my patient's children with diseases of a scirrhous nature; and although many cases of this rare disease

^{*} Mr. Causer was house surgeon to John Hunter; and I may mention it as singular, that he sent the patient, Caswell, from this town with popliteal aneurism, the first case operated upon by that celebrated gentleman; and it is equally singular that I should have given the first melanotic heart to the College of Surgeons and to the museum of St. Bartholomew's; and also the first specimen of diaphragmatic hernia, from the same town and neighbourhood. I should also wish to add to the list of specimens of disease that I have given to the museum at Bartholemew's Hospital, some small fibrous substances that I took from the bottom of the orbit of a child, born without eyes; the lids were sealed together; diarrhæa came on in a few days, the lids opened, and the child died. The mother had leucorrhæa, and, I presume, the child had purulent ophthalmia in utero; and both globes burst, leaving the sockets empty.

have been published during the last twenty years, on reading them I find no case wherein its ravages have been so extensive, and few where all the deposits are so purely black; nor am I acquainted with any case affording so strong a probability of the hereditary nature of this disease, made still stronger by the diseases in his children since his death. The zealous Mr. Oliver Pemberton, who has carefully selected the best recorded cases, and who has minutely investigated the writings of our best authors on melanosis, remarks: "As to hereditary transmission, Dr. Norris's is the only case in which the evidence seems trustworthy on this point." These additions appear to me to add fresh interest to this case, and to justify the desire I feel that it should be again laid before the public.

Case 2. James Perry, of Oldswinford, near this town, wtat 45, of sallow complexion, and thin, spare habit of body; had many years been a soldier in India, and had freely indulged in the use of spirits and tobacco. He had occasionally been affected with cough and slight pain in the chest, but not so as to prevent him from following his daily occupation as a mason. He returned home, after a long walk and a hard day's labour, ate freely at supper, and appeared to be in the enjoyment of his usual health; a few minutes after that repast he fell down and speedily expired. The malicious neighbours said he had been poisoned. An inquest was summoned, and I was requested to make a post mortem examination of the body.

On opening the thorax, the lungs on both sides assumed a very dark appearance, and several strong fibrous-looking adhesions had connected them with the walls of the chest; and, as Dr. Latham shrewdly observed to me, probably these adhesions were formed by repeated attacks of inflammation. The adhesions in some parts were very firm and extensive, so as to divide left part of the thorax into several compartments. The upper part of the left lung was ruptured, and nearly a pound and a half of very dark grumous blood was effused into the upper compartment. On examining the lungs, they were very easily torn, and numberless melanotic depositions, from the size of a pin's-head to a horse-bean, pervaded the great part of the structure of both lobes; all the other vital organs were apparently healthy.

How curious that so much disease should have existed in the lungs with so little constitutional disturbance. The case is novel and interesting: sudden death from melanosis of the lungs has rarely been recorded; and it is a striking example of chronic pleuritis dividing the left side of the chest into several compartments, and also of a primary formation of the disease in the lungs. Portions of this diseased structure are deposited in the museum of St. Bartholomew's Hospital, and in the Birmingham museum.

Case 3. A young woman, aged 26, of fair and freckled complexion, of thin and delicate form, applied to me with the most perfect specimen of

melanotic tumour I had ever seen, which originated in a mole-moles being generally very innocent marks, unless irritated; but when irritated, they are often very serious. Three years before she came to me, her brother was much annoyed at the unsightly appearance of this mark, and he ran a pair of scissors through it with the hope of removing it; a dark brown-coloured stain, the size of a large nut, afterwards surrounded the mole. Twelve weeks ago the mole began to increase; and when I first saw it, three weeks since, it was as large as a moderate-sized mushroom, attached by a pedicle as large as my least finger, not round, but oval and flat, black, soft, and elastic, situated between the shoulders. There is also a small tumour, the size and colour of a black grape, near its upper surface. I removed all the disease with abundance of the surrounding substance; the wound went on favourably and healed in about the usual time. I predicted, and so did one of the best surgeons of the present day, Mr. Lawrence, that the disease would in a few years return and destroy life. Eight years have now elapsed, within a month, since the operation, and the friends tell me she has no return of the disease.

This is a striking case, occurring from a wounded mole in early life, and no apparent disease returning for eight years; and she still lives within a mile of the town, and I occasionally visit her. She resides opposite an extensive brick manufactory, the atmosphere tainted with smoke, scarcely half a mile from the situation of my patient described in the first case; and the father smoked immoderately in the house.

Case 4. An active youth, 15 years of age, an errand boy to a grocer in this town, apparently in good health, consulted me with pain in the left eye and forehead, with dimness of vision. The globe slowly enlarged for a month; the lens at length had an amber-coloured appearance, and I predicted that fungus was developing. He went home to his father at Penn, near Wolverhampton; and as I took a great interest in the case, I rode nearly twenty miles to see him, six weeks after he had left this town.

I found the lower part of the eye had burst, and a tumour, as large as a moderate-sized apple, projected through the lids; in some parts it was of a dark reddish colour; other parts were of a darker hue, as if coloured with Indian ink, in perpendicular streaks. It was slightly ulcerated at the lower part, and the mother and youth told me it bled occasionally, and at other times discharged a dark fluid. The tumour also extended upwards, and separated the scalp from the lower part of the frontal and left temporal bones; it was lobulated, and as large as a moderated-sized man's fist, and was painful on pressure. Large veins, with dark blood, surrounded the tumour on the forehead. The youth was wasted to a mere skeleton; had cough and hectic symptoms, with considerable pains in the arms and legs, which made him unable to walk.

In a few months he died: no post mortem could be obtained; no melanotic deposits could be found on the skin; he died within six months

from the first appearance of disease.

I attended a child, 4 years old, who died from fungus hæmatodes in the eye, and the mother attributed it to a blow from a spoon; and this poor unfortunate youth attributed his awful disease to the same cause. This is an unusual case, occurring in a youth fifteen years of age. The mass of disease was unusually large, and more like fungus hæmatodes. I think the disease would extend to the brain, and some of the vital organs would probably have been found diseased with pure melanosis, though it appeared externally more like a mixed case of fungus hæmatodes and melanosis.

Case 5. A gentleman, ætat 80, consulted me with a large scirrhous tumour in the breast; he had received a severe blow on the part twenty years before; it progressively increased, and around several blue-looking tubera arose, the size of large grapes, not round, but oval and flat. He did not suffer that lancinating pain peculiar to cancer, and died in about two years after the first appearance of the tumour. The constitution did not appear to suffer much from the local malady, and he appeared to sink more from old age.

This case illustrates the occurrence of pure scirrhus of the breast in very advanced life, with secondary deposits like melanosis on the skin.

Case 6. I had a patient, a woman nearly 40 years of age, in good health, with a tumour the size of a pea, growing near the lower part of the caruncula lachrymalia, so black that she believes there is a small portion of coal in it. It hangs by a slender pedicle, and has existed several years. She has no deposits on any part of the body, and appears to be in good health.

Case 7. Mr. R., wtat 68, a farmer at Clent, near this town, one of the healthiest villages in the county, had a scirrhous tumour on the cheek: it continued to grow for a year and a half, and became a perfectly black mass; was ulcerated on its surface, and freely bled occasionally; several black tubera formed around it. He died within two years, with great debility, and his medical attendant told me he thought the frequent hæmorrhage hastened his death.

This is the only case that I have met with occurring in a rural district, and, to use the words of his brother, "he was a desperate smoker."

Case 8. A man, wtat 55, had hundreds of small dark tubera, the colour of a damson, scattered over his leg, and eventually died. This man resided about two miles from this town, at Brierly Hill, one of the most smoky iron districts in England. The case was related to me by Mr. Gutteridge, of Birmingham, who had been consulted as to the propriety of removing the limb. The man died without an operation, and no post mortem was obtained.

Concluding Remarks. By the microscope, the tumours in these cases were found to consist of cancer cells filled with melanotic matter.

Cysts were not well defined. The late Mr. Langstaff told me he had

never found the disease encysted.

There are several species of moles, and I think they will now excite more attention than they have done: some are small, of a pale brown colour, others are larger and very black, and these are the marks most likely to go into disease if irritated. When the disease begins in or near a mole,

I think it is almost sure to be malignant.

The non-malignant tubera, I think, are of a smaller size, and remain stationary a long period—perhaps for life; they are not pedicled, and are of a more faint blue or brown colour, and the health is generally good—at least not disturbed by the local malady. Whether these more innocent tumours, by some change of the system, or by injury, may ultimately become malignant, time alone will disclose. I have a patient with several on his face; they have given him no annoyance for years. In the cases I have described I have endeavoured to show that melanosis is often combined with medullary cancer; sometimes with scirrhous cancer; at other times with fungoid disease.

My first case displays melanosis in three of its varieties—the punctiform, tubriform, and liquiform; the latter, I believe, is rarely seen in the

human subject.

I have seen melanosis under the tails of white horses.

It is singular that Cullen, Carswell, and Fawdington, should have written on the disease some years after I first published, and never alluded to my case.

The persons I have found affected with this disease, which excites the astonishment of medical men, by the immense number of black-looking tubera on the vital organs, have been those of fair complexions; and the French have found the disease more frequently in white horses than those of a darker colour.

It is remarkable when melanosis affects several vital organs, how little their functions are deranged. In my second case, the man walked a long distance, and employed himself all day in a laborious occupation, and appeared well to the last few minutes. In my first case, where so many vital organs were diseased, general dropsy was produced, which appeared to hasten his death. When the veins and arteries have participated in the disease, as in my second case, pulmonary apoplexy has suddenly closed the scene. In some few cases, the vessels of the brain have been diseased, and life has terminated more speedily by palsy or apoplexy.

It would appear that I have seen more cases of melanosis than most provincial medical men; and, probably, it may be owing to my residing near one of the greatest coal and iron districts in England, where numerous iron works are in constant operation, forging iron for the smallest nails and the largest steam engines, cannons, &c.; where persons

are frequently breathing air clouded with black smoke.

On the Treatment. Perhaps it may be well to hope, when the disease begins in a mole, wart, or cellular tissue of a young person, that the disease is only local, and the sooner it is removed by the knife or caustic, the more prospect of success; for it appears soon to have the power to contaminate the neighbouring parts. Mr. Pemberton has related cases where the disease has been kept longer in abeyance by the use of caustics than any other plan. If a patient applied to me with a mole or wart in a state of irritation, tingeing the skin around of a dark brown hue, or with a small melanotic tumour in the cellular tissue, I should immediately not only remove the disease, but cut away some of the healthy parts. Mr. Pemberton thinks caustic merits a fair trial, and I am inclined to be of his opinion; for in an intractable disease like this, we may adventure with our remedies. I would, after excising the part, touch the wound with caustic, so as not to leave an atom of disease if possible, and occasionally apply the same remedy to the skin in the vicinity; so as to endeavour to excite a new action to supersede the diseased action. Should the disease reappear in the cicatrix, or near, I should at once freely apply caustic. Should tubera appear in remoter parts, it will too plainly tell us it is no longer a local disease, and that the knife and local means will be of little avail; and that the circulating mass is contaminated with melanotic matter, and that secondary deposits are affecting vital organs.

In the earliest stage of the disease we should regulate every function, and sedulously attend to the digestive organs, and endeavour to make more pure blood, for the blood is very black, and if deprived of its saline particles we may give carbonates of potass and soda, and more salt may be taken with the food. A regular course of arsenic may be useful. The power of this medicine has lately astonished me in a case of scirrhous breast in a female, more than fifty years of age; in a few months it vanished, by doses such as are recommended by my zealous friend Mr. Hunt, of London. This female's mother died with cancer. I used arsenic in my third case of melanosis, and the disease had not returned for eight years.

Patients should be removed from smoky districts to the pure air of the country; perhaps more oxygen, diffused through the air they breathe, may be beneficial.

In the present state of our knowledge, when the disease appears in several parts of the body, physic will, I fear, uniformly fail, and surgery will be foiled.

If I have thrown the faintest light on the pathology of this obscure disease, or given the least information on curative measures, that may more or less arrest its progress, I shall be satisfied; and shall be much pleased if I have stimulated modern pathologists to confirm or confute my humble statements.