freely, as a parasiticide, a weak solution of corrosive sublimate. What the result will be it is impossible as yet to say, but the probability is that, though the parasite be destroyed, the nail will require a very considerable time to recover itself, for the bed of the nail is nearly as much deformed as the nail itself, being raised in the centre and depressed at the sides; many of its papillæ also are immensely elongated, so that in scraping away the nail several bleeding points were seen surrounded on all sides by a considerable depth of nail substance.

ART. XVIII.—*On Diseases of the Supra-Renal Capsules or Morbus Addisonii.* By JOHN HUGHES, M.D.; Physician to the Mater Misericordiæ Hospital. Read at a Meeting of the Medical Society of the College of Physicians, March, 1865.

THE disease known as supra-renal melasma is a discovery of recent origin, and one which we owe to the late Dr. Addison. He it was who first traced the connexion between disease of the supra-renal bodies and a most remarkable series of phenomena which existed during life; and whatever scepticism may have existed at one time respecting his views, it would be absurd any longer to doubt their correctness; day after day cases have been recorded by competent observers, and facts have accumulated in support of his original idea, so that there is no problem in medicine better supported or more clearly proved than that which he propounded. Dr. Addison says:—

“The leading characteristic features of the morbid state to which I would direct attention are—anemia, general languor and debility, remarkable feebleness of the heart’s action, irritability of the stomach, and a peculiar change of colour in the skin, occurring in connexion with a diseased condition of the supra-renal capsules.

“As has been observed, in other forms of anemic disease, this singular disorder usually commences in such a manner that the individual has considerable difficulty in assigning the number of weeks or even months which have elapsed since he first experienced indications of failing health and strength. . . . The patient, in most of the cases I have seen, has been observed gradually to

fall off in general health. He becomes languid and weak, indisposed to either mental or bodily exertion; the appetite is impaired or entirely lost; the whites of the eyes become pearly; the pulse small and feeble, or perhaps somewhat large, but excessively soft and compressible; the body wastes without, however, presenting the dry and shrivelled skin and extreme emaciation usually attendant on protracted malignant disease. Slight pain or uneasiness is from time to time referred to the region of the stomach; and there is occasionally actual vomiting; and it is by no means uncommon for the patient to manifest indications of disturbed cerebral circulation.

“Notwithstanding these unequivocal signs of feeble circulation, anemia, and general prostration, neither the most diligent inquiry nor the most careful physical examination tends to throw the slightest gleam of light upon the precise nature of the patient's malady; nor do we succeed in fixing upon any special lesion as the cause of this gradual and extraordinary constitutional change. We may indeed suspect some malignant or strumous disease. We may be led to inquire into the condition of the so-called blood-making organs, but we discover no proof of organic change anywhere.

“No enlargement of spleen, thyroid, thymus, or lymphatic glands; no evidence of renal disease, of purpura, of previous exhausting disease, or ague, or any long-continued exposure to miasmatic influences. But, with a more or less manifestation of the symptoms already enunciated, we discover a most remarkable and, as far as I know, characteristic discolouration taking place in the skin, sufficiently marked, indeed, as generally to have attracted the attention of the patient himself, or of the patient's friends.

“This discolouration pervades the whole surface of the body; but is commonly most strongly manifested on the face, neck, superior extremities, penis, and scrotum, and in the flexures of the axillæ, and around the navel.

“It may be said to present a dingy or smoky appearance, or various tints or shades of deep amber or chestnut brown; and, in one instance, the skin was so universally and so deeply darkened that, but for the features, the patient might have been taken for a Mulatto.”

This description, so clear and graphic, admirably depicts the appearance of the patient and the symptoms of the disease; and, in all the cases observed since it was written, there is a singular uniformity and confirmation of its accuracy.

Dr. Wilkes, indeed, who has written an admirable essay on this disease, and who was in the habit of examining all of Addison's cases, fully endorses his original opinions.*

He says, that Addison especially founded his diagnosis upon the constitutional symptoms as already detailed, coupled with the discolouration of the skin. This latter appearance, however, is not a necessary accompaniment of the disease, and probably depends upon its chronicity. Where it does occur, however, the whole surface of the body is uniformly implicated, and those parts most exposed are first and most affected—as the face and hands; also those parts where a blister or an eruption may have excoriated the surface.

There are other symptoms given in detail which it would occupy much space to set down here, but for which I would refer the reader to Dr. Wilkes' complete essay. I will only add—that the history, symptoms, and *post mortem* appearances of the case I am enabled to record singularly confirm the views of Dr. Addison, and closely resemble the features of some of his best marked cases; one of its most striking phenomena also had the advantage of being perpetuated by means of the photograph, and the assistance of a first rate artist who coloured it from life. The only instance of the kind, I believe, on record.

CASE.—I admitted into the Mater Misericordiæ Hospital on the 20th of February 1865, Pat. Garry, a native and resident of the county Kildare. He was a married man, had three children, was aged forty-five, by occupation a herdsman. I first saw him at my own house where he was brought by his master, who took the kindest interest in him. I asked him what ailed him, and he said he could not tell what came over him, only that he felt the greatest weakness; could not use any food, and had pains in his arms, in his back, and extending round his waist; his knees also were stiff and weak, so that when he knelt he could scarcely rise again—yet he was thankful there was no sickness upon him, only he was weak as a child, and not able to do anything. Together with those symptoms he presented the most remarkable discolouration of the skin, so peculiar, so striking, that I had him photographed on the instant, and so identical with that described by Addison that I, without hesitation, ventured on the diagnosis of supra-renal disease,

* Guy's Hospital Reports, Vol. viii.

and wrote to that effect to his master, stating also that I expected an unfavorable result. I received from him this reply:—

“MAYNOOTH, *March 3rd, '65.*

“Since the receipt of your very kind letter of the 25th I have been absent; this will, I hope, sufficiently explain my silence. Allow me to thank you for the great care and attention you showed towards poor Garry. *From your letter I anticipated the worst consequences.*”

I state this merely to show how similar in symptoms and appearance those cases are, and how easily they are recognized. The most striking phenomenon at first is the colour of the skin; but the muscular debility, the breathlessness on exertion, and the loss of appetite, all without any tangible cause, are no less remarkable. Being greatly interested in the case I used every means in my power to obtain the best history of it I could from himself, his wife, his master, and his doctor in the country. It appeared that he never suffered from any disease or accident which confined him to his bed or to the house, but for the last eight or ten years he complained of a bad stomach: its contents were frequently unduly acid, and he had occasional pyrosis, but he never vomited any blood or coloured fluid, and when the attack was over he felt no inconvenience. He was always temperate and regular in his conduct; he lived very comfortably for one in his station of life; was well clothed, well fed, and his diet was sufficiently varied, being accustomed to use fresh animal food two or three times in each week, and his occupation did not expose him to any influences detrimental to health; in fact, the most searching inquiries failed to find any sufficient cause for the gastric disturbance. His family history afforded no evidence of any hereditary taint; his father died of fever, under the age of thirty; his mother he believed to be still living in America, as also three brothers, and he has one sister at home. He had never heard of any delicacy in his family. However, the condition of his stomach troubled him for a long period; and as time wore on the attacks became more severe and more frequent. This was especially the case within the last two or three years, and for the four or five months preceding last November he could scarcely retain any food on his stomach, no matter what kind it was, and he lost condition being *one stone* short of his ordinary weight, contemporaneously with this aggravation of his gastric disturbances commencing about

last May. *The colour of his skin began to change*; every one remarked it. His friends told him he was getting jaundice; and his master told me he too observed it, but attributed the change to open air exposure. The patient himself did not mind the alteration of his colour; he only felt a gradually increasing weakness and loss of appetite. He consulted a physician of high standing in his own district, to whom I wrote, and he very kindly answered me, saying, "he was sorry he could give me little information about Pat. Garry, as he had not taken notes of his case, but he recollected that he consulted him in October last, and that he looked upon his case as one of incipient cancer of the stomach combined with disease of the liver." In December last he came to Dublin for advice, and got some powders to take and a croton oil liniment to be applied to the epigastric region. After the eruption produced by its application appeared, the vomiting ceased, but his appetite also completely ceased with it, and so also did the weakness increase. This is all I could make out of his history or antecedents bearing upon the case. On admission to the hospital he was carefully and repeatedly examined with a view of discovering some sign or symptom of organic disease to account for his extreme debility and prostration, but in vain. The lungs yielded no morbid sound either on percussion or auscultation; the heart's action was regular, and its sounds normal, but feeble, and the pulsation not to be felt in the precordial region; the pulse, too, was excessively weak and compressible, reckoning eighty in the minute. Below the diaphragm the abdomen was rather retracted; there was slight epigastric tenderness on pressure, but no tumour to be felt; the pulsation of the abdominal aorta could be readily felt in the umbilical region, and he himself complained of its throbbing, more especially when in the recumbent position, and said it kept him awake at night; the kidneys acted well; the urine was normal in quantity and quality, it contained no albumen or other deposit, its specific gravity was over 1026, and gave an acid reaction; the bowels were regular, and the tongue clean; he complained of a pain in the abdomen, and described it as extending from the lumbar vertebræ and encircling the abdomen, very severe, but intermittent; it was neither aggravated nor relieved by food, nor was it increased or mitigated by anything he knew of; he suffered also from pains in the arms, and both in the spine as well as the arms pressure was disagreeable, if not painful. There were no cerebral symptoms, no headache, or delirium, and no paralysis, but there was a remarkable depression of spirits, coupled with a nervous anxiety about himself.

In fact, our examination was negative in its results, for there was nothing established by it to account for the great weakness which existed; this latter symptom was so extreme that our patient could not walk across an ordinary room without the greatest breathlessness and distress, and he sometimes felt giddy on suddenly getting out of bed or assuming the erect position. The discolouration of the skin, as I have already observed, was very peculiar, and led me at first to make a diagnosis. My colleague, Dr. Hayden, also recognized the resemblance between this patient's symptoms and those which presented in a case he has detailed in his essay on "Supra Renal Melasma," published in number LXXVII. of the *Quarterly Journal*, and the pathological changes in which he exhibited at a meeting of the Pathological Society on the 10th of December last. My patient's complexion had been always fair and clear, and the hair brown; now the face, neck, and hands were of a smoky-brown or bronze colour, while the sclerotic was pearly white and the finger nails were also whitish, but the pigmentation was not limited to those parts; it was well marked in the axillæ; around the nipple; in the epigastric region where the croton oil liniment was applied; in the inguinal regions, especially the left, where the patient himself said it commenced—on the scrotum and over the knees; there were also in parts of the axillæ and on the arms a few scattered spots like those of purpura, but much darker, almost black.* The skin, together with being universally discoloured, was dry (the patient said he never did perspire), but not shrivelled; there was a well-marked livid bluish line along the free margin of the gums, very like that produced by the poison of lead.

Dr. Hayden kindly assisted me in making a microscopic examination of the blood; and although it contained white corpuscles, yet they were not in any remarkable excess—from five to six in each field, while in other recorded cases they amounted to forty or fifty.

From Monday, the day of his admission into hospital, till Friday there was no marked change in my patient's symptoms; indeed, he sometimes said he felt better; he got up every day, dressed himself,

* The accompanying portrait is a most faithful likeness of my patient, and gives a perfect representation of the pigmentation of the skin. The photograph was made and painted from life by Mons. Werner, 15, Leinster-street, and lithographed with singular fidelity and skill by Mr. H. M'Connell. Our patient, as may be seen from the likeness, was not a little puzzled at his novel position; and, being somewhat reluctant to submit to the photographic process, we were compelled to have him taken without much exposure of the surface; but some of the parts best marked are uncovered.

Drawn on Stone by Henry W. McConell, from a Photograph by Werner, 15, Leinster St Dublin.

and took more nourishment than when at home. His wife came from the country to visit him on Thursday, and she thought him improved, and found him more cheerful than usual. He took six ounces of wine daily and some aromatic iron mixture. On Friday night, however, after getting into bed he had a rigor which lasted about half-an-hour, and was followed by what he called a most distressing heat (but no perspiration), and he continued so till two o'clock in the morning, when he fell asleep. At my visit on Saturday morning he told me what occurred to him, and said he had similar attacks of late, but this was the first since he came to hospital; he said also he took some bread and tea for his breakfast *in bed*, which he immediately threw up, and this was the first time he vomited since he came under my care, or for some weeks before. He got up, however, but was scarcely dressed when the rigor again seized him, and he was obliged to lie down. The hour of my visit on Saturday was eleven o'clock, when I carefully examined him; I found no change except some degree of febrile reaction after the rigor; his skin was hot; his pulse quick, 110, and he was thirsty; his bowels were moved early, and he passed urine; there was no pain, no tenderness, no sign of any thoracic or abdominal inflammation, and his intellect was perfectly clear; there was nothing to lead to the belief that there was immediate danger. However he began to sink that evening, and during the entire night, and at six o'clock on Sunday morning I was sent for to see him. I went to the hospital without delay, and found him lying in bed, on his back, unconscious, not able to swallow, nor capable of being roused from what might be called a quiet sleep; I could barely feel the pulse; the breathing was regular; there was no stertor, no coma, no convulsion, and his features were unchanged. He died at two o'clock.

As my patient's sojourn in the hospital was brief, and his disposition so fearful and nervous, few unconnected with the institution saw him, and those few medical friends who visited him with me were struck with the pigmentation of the skin.

The *post mortem* examination, which was made by the pupils of the hospital, in my presence, and in presence of my colleague, Dr. Hayden, twenty-four hours after death, completed the case. The morbid specimens were produced at the last meeting but one of the Pathological Society, and I will briefly repeat the observations I then made in exhibiting them:—The body was rigid, somewhat reduced, but not emaciated; the colour still remained. On laying open the the thoracic and abdominal cavities there was a deposit of yellow fat in

the latter at least half-an-inch thick; the viscera I now produce are perfectly normal; the stomach which had been so irritable and so weak of function during life, is pale, no doubt, and anemic, but without any trace of organic disease or inflammatory action; the spleen is normal in size and structure; the kidneys are perfectly healthy; the heart, which beat so feebly, is healthy in structure and its valvular apparatus perfect, nothing to remark except a more than ordinary deposition of fat upon its external surface; the lungs too, I had almost said, are healthy, for those scattered milliary tubercles on the surface just beneath the pleural membrane (but not in the substance of the lung), whatever might be their effect in process of time could not have seriously interfered with their function up to the present, neither did they reveal their existence by physical signs nor by constitutional disturbance. In vain do we search for pathological changes in the principal organs; but in examining the supra-renal bodies, here alone do we find structural alterations in the greatest degree, increase of size, and deposition of a firm opaque lardaceous-looking substance, of a yellowish white colour, something like the section of a cut parsnip. The *left* capsule is much larger than the right, as if it was in a more advanced stage of disease, but both affected by the same deposit differing only in amount; through both very large nerves run, much larger than in the normal state. Dr. Hayden has kindly obliged me by making a careful examination of this deposit under the microscope, and also of a portion of the skin which had been removed for the purpose; the following is his memorandum:—

“The cheesy-looking substance occupying the centre of the left supra-renal capsule, and deposited in the form of nodules through the right, is found, on microscopic examination, to consist of imperfect cells of different sizes, nuclei and fat molecules. There is no trace whatever of fibrous tissue, fibro-plastic material, or indeed of inflammatory products in any form—the substance is manifestly a strumous deposit. A section of the coloured skin made perpendicular to the surface with a double-edged knife, exhibits an abundant deposit of dark pigment, in the usual situation, viz., in the deepest layers of the cuticle.”

The head was not examined; but as we had no cerebral symptoms during life it is not likely we should find any material structural changes after death.

It is remarkable how closely the case recorded corresponds in all essential features with those detailed by Addison in his original essay.

The anemia, the debility, the feebleness of the heart's action, the irritability of the stomach, and the peculiar change in the colour of the skin, were all present, and also what may be called the negative symptoms of the disease, namely, the absence of any other cause to account for the phenomena present.

As already stated, Dr. Addison, and Dr. Wilkes, too, attached most importance to the asthenic condition and its symptoms as indications of this disease, and they considered the pigmentation of the skin as a late one in the order of symptoms. But, however that may be, it is one of the most remarkable amongst them, and one which attracts most attention—whether it occurs early or late during the disease, requires a larger number of cases and more minute histories to decide.

Referring to my case, it would seem to have been noticed long after the other symptoms—indeed only a few months before the patient's death, and, as I have stated, it was uniformly spread over the entire body.

Speaking of the mode in which the discolouration affected the skin, Dr. Wilkes says, “without denying that the colour may sometimes occur in patches, we think we are correct in saying that all experience has hitherto shown that the discolouration has been uniform over the whole surface of the body. The exact hue is difficult to describe. But it may be said to resemble that of a Mulatto's skin, and, therefore, is of a brownish cast, having sometimes an olive-green tinge, and thus the term bronzing of the skin, has come into use, or it has often what our artists call a walnut-juice shade.”

On the pathology of this most interesting disease, I have little to offer. In the two cases, Dr. Hayden's and my own, which I had the opportunity of examining, the deposit in the capsules appeared to me and others very like that which we meet with in other glands, and are in the habit of denominating “strumous;” and it will be remembered there were small granular bodies, which we are also in the habit of calling miliary tubercles, found on the surface of the lungs in my case; yet Dr. Wilkes, whom every one must admit to be the best authority on the subject, considers the deposit in the capsules to be *sui generis* neither cancer, melanosis, nor tubercle. He says it is deposited first as a translucent, softish,

homogeneous substance, subsequently it degenerates into a yellowish white matter, and afterwards softens into a so-called abscess, or dries up into a chalky mass. But, however, much pathologists may differ as to the ultimate structure of this deposit, and although physiologists have as yet failed to discover the special functions of the supra-renal bodies, we cannot resist the logic of facts, but must admit that their disorganization is accompanied by a very peculiar train of symptoms during life, and an amount of constitutional disturbance tending slowly, but surely, to a fatal result.