

ART. XI.—*Case of Melanosis.* Communicated by J. B. S. JACKSON,
M. D., of Boston.

Mrs. P., a patient of Dr. S. Spofford, of Newburyport, entered the Eye Infirmary, in this city, Nov. 8th, 1844. Eight years before, she began to have pain in the right eye, followed by loss of vision, the pain continuing, and being so severe as to require the use of opiates. Three years before, the lens became opaque, and for the last six months there had been a protrusion of the eye from the cavity of the orbit. On examination, a tumour was felt just within the orbit on the temporal side; the eye was greatly protruded, the lids discoloured, and the iris pushed forwards by the opaque lens. On the 12th, the eye was removed by Dr. R. W. Hooper; with it the whole of the diseased mass; and on the 23d, the patient returned into the country.

On examination of the diseased mass, which has been preserved in the Cabinet of the Society for Medical Improvement, there was found to be a well-marked melanotic tumour, equal to more than an inch in diameter, and closely connected with the sclerotic coat; being mostly external, though a large portion of it was situated within the cavity of the vitreous humour. One or two small and distinct masses were also seen, apparently just commencing in the sclerotic coat. The eye itself was not enlarged.

On the 15th of December, 1845, the patient again showed herself, with a return of the disease; about a fortnight after she left the Infirmary, as she stated, there appeared a small purplish spot about where the external incision terminated, when the eye was removed, and just in the cicatrix. In August the disease re-appeared in the orbit, and on the above date the cavity was filled with masses varying in size from a pin's head to a chestnut, the surrounding integuments being also affected; at first there was severe pain with swelling in the chest, but these symptoms had subsided, and her general health was decidedly better than before the operation.

From the above date, until her death, which occurred on the 9th of Jan. last, and at the age of fifty-one years, the tumour in the orbit gradually enlarged, and the patient, for much of the time, suffered very severe pain extending from the eye to the occiput; the paroxysms being occasionally attended with bilious vomiting, and sometimes with hemorrhage. With these exceptions, her general health was good, and her appetite remarkably good until last June, when she was attacked with dysentery, from which time she suffered from pain in the back and hypochondria; this was at times excruciating; it was accompanied with hardness and some swelling of the abdomen which continued until her death; the pain in the orbit meanwhile had subsided. About two years ago, the disease began to appear in the integuments, and tumours were successively developed in different parts of the body, but were never painful. Catamenia regular until the attacks of dysentery. No hereditary tendency to cancer, but when quite young, the patient had a small tumour removed from the lip which her physician thought might have become cancerous if allowed to remain, and the latter part of the history of this case has been furnished by Dr. H. C. Perkins, of Newburyport, after having been revised by Dr. Spofford.

On examination after death, the cavity of the orbit was found to be filled, though not distended, by a well characterized, almost perfectly black, melanotic mass; the external tumour was about half the size of the fist,

deeply lobulated, partially covered by their integuments, and having there a purple colour, as it was black where exposed; no proper ulceration, and no appearance of gangrene. The bones were healthy, excepting the large wing of the sphenoid, which was partially absorbed, the disease just beginning to show itself within the cranial cavity; antrum healthy; optic nerve on right side atrophied. Brain quite firm, but otherwise not remarkable.

The surface of the body, anteriorly, was studded over with melanotic tumours, as in a case figured by Cruveilhier, some being seen upon the neck and a few upon the extremities; about the mamma, where they were most developed, several of them were of the size of a nutmeg, and considerably discoloured externally. On dissection, the masses were found to be quite defined, of a rounded form, and varying from a pale brown to a deep soot-colour, a few of them being evidently stained by effused blood; they were mostly just beneath, but attached to the skin, some being found in the cellular membrane, and not a few in the muscles. In the right iliacus internus muscle, there was a large mass, of a reddish colour, and perfectly grumous. Right mammary gland apparently healthy.

Within the cavities of the thorax and abdomen there was found a great amount of disease, situated for the most part in the cellular membrane and external to the organs. One quite large mass rose from the upper surface of the diaphragm, and from the anterior edge of the lungs there hung off numerous others of a regular rounded or ovoid form, singly or in groups, and on an average, of the size of an English walnut. The surface of these organs was also studded over with much smaller masses, and a few were found in their substance; at the apex of one of the lungs was a fine specimen of arrested tubercular deposit, but without any appearance of recent deposit.

The omentum consisted of a delicate web, filled with minute but distinct melanotic deposit, except about its lower edge, where was a pale brownish mass about the size of a hen's egg, and another about half as large, and quite black. Several pedunculated masses arose from the mesentery, and particularly about its junction with the small intestine, varying from the size of a walnut to that of a hen's egg; the fundus of the uterus and the ovaries were also studded over with the same.

In the substance of the left ventricle of the heart, there were found traces of disease, besides numerous small masses, just beneath the pericardium, and internally just beneath the lining membrane of the two ventricles, and the right auricle; these last deposits being quite black, and about the size of peas. The liver contained one or two masses, from two to three inches in diameter, besides some smaller ones, all of them being of an intensely shining black colour, and without a shade of brown; otherwise the organ was quite healthy. In the substance of the pancreas was a perfectly defined round mass, of a rich brown colour, and of the size of a marble; besides several others, quite small and pale, there was also an abundant deposit external to the organ, as there was about the right kidney, this last being, itself, not much diseased. The left kidney was distended into a thin fluctuating cyst, though only moderately enlarged; the pelvis, externally to the organ, was, however, much enlarged, and the mater was dilated in proportion throughout the greater part of its extent, being completely plugged up towards its lower extremity by a melanotic mass more than an inch and a half in length, and perfectly black. Bladder healthy, as were the genital organs in substance, the alimentary canal, and the spleen.

The colour of the masses above described varied as did those in the integuments, being generally of a pale brown, sometimes of a deep rich brown, and in a few cases of a coal black; several of them were also stained by effused blood, though no distinct coagula were found, and there was nowhere any appearance of encephaloid deposit. They were always perfectly defined, though never encysted, the surrounding structures being in no way affected. In consistence they also varied, being sometimes almost of a grumous softness, and sometimes moderately firm. In most respects they corresponded remarkably with Cruveilhier's figures; the divisions by septa and the lobulated form were, in some of the masses, quite distinct, though in others not at all; the bones, however, were nowhere the seat of the deposit, as in one of the figures referred to.

The lymphatic glands were generally but little affected, except in the right axilla. Specimens from different parts of the body have been preserved for the medical society's cabinet, and a few were sent to New York, and there exhibited before one of the medical schools.

One of the black, and one of the light brown tumours having been sent to Dr. John Bacon, Jr., of this city, for microscopical and chemical examination, the following is his result.

"Sections of brown tumour (which is less opaque than the black), appear under the microscope, both by reflected and by transmitted light, to be composed of coarse grains, with some indistinct fibres intermixed, a few roundish groups of regular black granules, apparently enclosed in cells, are scattered throughout the mass; but its colour is seen to be due to a brown colouring matter irregularly diffused.

"When the sections are subjected to pressure between the glasses of the Compressorium, a small quantity of a colourless viscid fluid is forced out, accompanied by vast numbers of transparent oil-globules of every size, which readily unite with each other, when brought in contact by pressure. Small pieces of the tumour broken up, (or portions scraped from a fresh-cut surface,) and diffused in water, exhibit, in addition to the oil-globules, and a few black granules, immense numbers of semi-transparent cells of various forms and sizes, not distinguishable from true cancer cells. They are well seen in a portion of the tumour, from which the fat had been entirely removed by boiling in successive portions of ether. Many of the cells contain distinct nuclei and nucleoli; in some there are several nuclei. Among the forms observed, are caudate, fusiform, oval and nearly round cells. Sometimes the wall of the cell is distinctly visible and very thick. In the less broken masses, the cells can be traced from the edges into their substance, producing the granular structure already mentioned.

"Sections of the black tumour, when compressed under the microscope, afford the oil-globules mixed with a viscid fluid, like the brown tumour. Great numbers of small irregular granules, perfectly black, are also observed. These granules are either isolated, or in groups contained in cells. Whether they were all enclosed in cells in the tumour, cannot be determined. On comparison with pigment-granules from the eye of an ox, they are perfectly similar in appearance, and in their chemical reactions, as described by Vogel. The cancer cells are present in the black tumour, but are not so distinctly seen as in the other. A few fibres are also observed.

"The black tumour retains its colour unchanged after boiling in ether; the other is nearly deprived of its colour, which is not due to pigment granules, though these are present in small amount, but to a brown colouring matter which appears to be soluble in ether.

"Whether the fat is contained in cells, could not be determined, but such is probably the case. No globules are visible until compression is applied.

"The facts which have been stated, lead to the conclusion, that these are true encephaloid tumours, consisting of cells, &c., viscid fluid with a few fibres. There are also present pigment cells, and pigment granules, and a large amount of fat."