type, and therefore I scarcely see how it can be predicated of any one of them that it would not act in this way. After all, as I shall presently take occasion to point out more fully, the question of malignity is a relative one; and, as cells are most liable to assume that state of action to which I would apply the term malignant, I think that the existence of cells in a tumour affords grounds for regarding it as either malignant, or likely to become so; while the negative evidence is only valuable so far as it shews the most obvious conditions of malignity not to have yet been assumed.

As to the specific nature of the cancer-cell, I can only state here, that a consideration of the opinions of the microscopists to whom I have referred, together with the few observations I have been enabled to make personally, lead me to doubt whether there is a diagnostic cell. I should be guided more by finding cells in situations where they ought not to be; and if there is any cell more diagnostic of cancer than another, it is the large "parent-cell", with from three to five smaller ones within it. But the absence of such cells does not shew that the disease is not cancer.

In the preceding remarks, I have made frequent use of the term "malignant", on the use of which, therefore, a few remarks will be necessary. I quite agree with Drs. Walshe, Bennett, and Druitt, that the use of this term is objectionable, so far as it conveys with it the idea of incurability, and thus tends to discourage the surgeon; but still I think that, if we could dissociate from it the idea of *invariable fatality*, we might still use it as expressive of a certain pathological condition—that, namely, in which a morbid growth is monopolising rapidly the nutritive material intended for building up the normal structures of the body. As cell-growths have the property of rapid evolution and nutrition, so far cellular structure may be synonymous with malignity, but only so far as we find the destructive action in full operation. The term, as I just now observed, is probably, however, only relative; and some remarks made by M. Robert in the Academy of Medicine are so much to the purpose, that I must beg your attention to an abstract of them.

"The classification into benign and malignant is not in strict accordance with the teachings of histology.... The idea of benignity must no longer be associated with homœomorphism, nor that of malignity with heteromorphism. Here has been the source of confusion; the barrier which has separated microscopists from clinical observers; raised, no doubt, by premature conclusions on the part of the microscopists, but strengthened by the adoption of the same faulty expression by surgeons. All tumours may be relatively benign or malignant. A true scirrhus, which lasts eight or ten years and more without ulcerating, without producing glandular enlargement, without causing pain or cachexia, and which, after removal, does not reappear, or only after some years, is extremely benign in comparison with an encephaloid tumour which runs through all its phases, and produces death in less than a year. And even a scirrhous tumour, such as has been described, is much more malignant than a large ulcerated glandular tumour. .... The microscope cannot, any more than pathological anatomy in general, always determine the question of benignity or malignity; but, in some cases, it teaches us to exercise caution; in others, it inspires us with a confidence amounting to apparent rashness."

I had intended to make some remarks on the prognosis of cancer in respect of operative treatment. This subject, however, I must defer for the present; merely remarking that we require most accurate statistics before the question of the efficacy or uselessness of operation can be entirely settled. On some future occasion I hope to be able to return to this subject, and to avail myself of the data furnished by the practical members of the profession.

12, Hinde Street, Manchester Square, April 1855.

NOTES ON OPHTHALMIC DISEASES.

By J. VOSE SOLOMON, Esq., F.R.C.S., Surgeon to the Birmingham and Midland Counties Eye Infirmary; formerly Honorary Surgeon to the Birmingham General Dispensary.

[*Continued from page* 846 *of volume for* 1854.]

FOUR CASES IN WHICH VIOLENCE TO THE EYEBALL CAUSED THE IRIS TO BE INVISIBLE, THE HUMOURS BEING TRANSPARENT.

A VIOLENT blow upon, or squeeze of, the eyeball, is sometimes followed by separation of the iris from the choroid, and multiplication or distortion of the pupil. Of these accidents Dr. Mackenzie has given, in the last edition (4th) of his *Ophthalmic Treatise*, illustrative engravings.

The Eye Infirmary of this town has afforded me opportunities of observing four adult cases, in which, as a consequence of violent concussion of the globe of the eye, the iris was rendered permanently invisible, the humours at the same time retaining their translucency. The records of the cases, though not so full as I could have desired, may not be without interest to the profession; for at present the annals of medical science afford only one parallel instance.*

Three of the cases occurred in males; one in a female. The *exciting cause* in one was an unskilful attempt to thrust the eye out of its socket by gouging; in three a violent blow on the organ.

Complications. In two, the case of the eye was ruptured; the sclerotica in one; the cornea in another. In two no fracture took place. In the case in which the sclerotica was cracked, the anterior chamber was noticed, three days after the accident, and when first seen by me, filled with blood. In the others, no internal hæmorrhage was detected. In one, the choroid, in place of its usual black reflection, had acquired a burnished copper appearance.

Vision. Two of the patients were completely amaurotic; a third could read half-inch letter; and a fourth type of the size of the leading articles in the *Times* newspaper.

CASE XV. A strong man, thirty years of age, a wholesale poulterer by trade, while engaged in a drunken row, had an attempt made upon him, by a person with whom he was quarrelling, to force out his right eye by thrusting the thumb between the inferior part of the globe of the eye and the osseous orbit. This "gouging" was not completed; but the sight of the organ was at once extinguished, and considerable pain was excited therein. For these symptoms, the patient, who was of dissolute habits, applied four leeches; and, in about a fortnight after the accident, he came to me at the Eye Infirmary. I noted that the whole front interior of the eye appeared of a dark bluish-black colour (invisible blue?); no vestige of iris could be anywhere traced; there was one vast pupil, bounded by the margin of the cornea; the latter membrane was transparent: with the exception of fading patches of ecchymosis in the ocular conjunctiva, the outer textures appeared normal; the eye was completely insensible to light. Upon looking obliquely into the cavity of the eyeball, the choroid was seen of a metallic lustre, exactly resembling burnished copper plate; the appearance was abruptly terminated in front by an extremely narrow ring—say two-fiftieths of an inch wide—situated in the position of the corpus ciliare, which I presume it was.

The patient did not present himself again for inspection.

[A few months before this case came under my notice, an infant at the breast, only a few weeks old, was brought to me from Stone Street, Dudley, in whom the same appearances, as regards absence of the iris, colour of the pupil, and the appearance of burnished copper in the place of black pigment, were observed in both eyes as a *congenital* defect. The child was not amaurotic: it died of convulsions before attaining the age of six months.]

CASE XVI. A healthy Irishwoman, twenty-eight years of age, received a back handed rap upon the left eye from her husband, "all in play", as she good-naturedly said. Three days after the accident, she presented herself at the Eye

* A case by Mr. Dixon, in the Lancet.

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Infirmary. The sclerotica was fractured transversely for about one-eighth of an inch in a line with the insertion of the superior rectus muscle; the conjunctiva and sclerotica were inflamed; the anterior chamber filled with blood: she complained of great pain in the organ and brow. I directed eight leeches to be applied to the temple, and two grains of calomel with six grains of Dover's powder to be taken every six hours till the gums became sore. In about three weeks, the blood was absorbed, the iris was nowhere to be seen, the pupil was bounded by the margin of the cornea, and the patient was quite blind. The vision of the right eye was as good as usual.

Case xvii. Thos. Clark, aged 42, a warehouseman at Mr. Thos. Badger's, of Dudley, applied at the Eye Infirmary, April 13, 1852. He said that he received, six weeks before, a violent blow upon the right eye from a piece of iron; that he immediately placed himself under the care of Mr. Badley, sen. (a most able surgeon), who treated him by leeching the temple, mercury to slight ptyalism, and a spare diet.

Present State. The iris was nowhere to be seen; a rod-like cicatrix, half a line wide, extended from the upper and outer circle of the corneo-sclerotic union perpendicularly down the outer side of the cornea. A fragment of lens, the size of a small pin's head, lay on the floor of the anterior chamber; the humours were transparent. The conjunctiva and sclerotica were normal.

Vision. He could distinguish large objects, and read half-inch type. His anxiety to obtain more perfect vision had induced him to come to the Eye Infirmary; and he was much chagrined when told his surgeon had done everything by medicine that was possible for him, and that he would be fortunate if he should retain as much sight in the injured eye as he then enjoyed. He was ordered to take three grains of hydrargyrum cum cretâ every night; and an ounce of bebeerine mixture three times a day.

April 20th. The medicines were continued.

May 4th. There was no improvement in the vision. The treatment was continued.

The patient did not again present himself for observation; or I should have tried the effect of a double convex lens set in an Esquimaux spectacle.

Case xviii. Michael O'Day, a tailor, residing in Dudley Street, Birmingham, forty years of age, tall, and of powerful build, received a violent blow from a man's fist upon his right eye, on the 3rd of February, 1852. Three days afterwards, February 6th, he applied at the Eye Infirmary, with external ophthalmia and partial chemosis, a clouded aqueous humour, the pupil so widely dilated ? that the iris was invisible, and nearly complete amaurosis. He denied that he was suffering pain.

Admoveantur hirudines xii tempori dextro.

℞ Magnesiæ sulphatis ℥ss.
Sumat statim ex aquâ et repetat omni mane.
Mitte doses iv.

℞ Pulveris Doveri cum calom. gr. viij.
Sumat horis quartis.

Feb. 7th. The eye felt easier since the bleeding; he had "slight" vision with it. Through some mistake on his part, he did not obtain his medicines yesterday.

℞ Hydrarg. chlor. gr. v.
Opii puri gr. ½:
Antim. potass-tart. gr. ½. M.
Fiat pilula horis quinque sumenda.

He was ordered to have slops for diet.

Feb. 10th. Ptyalism. Empl. lyttæ nuchæ. Omit pills.

Feb. 13th. The ophthalmia had nearly subsided; he could see objects more plainly; no iris was discernible; the centre of the lens had a greenish hue. He was ordered to take half a pill every night.

Feb. 24th. Vision was much improved; he could read the heading of his infirmary note. The aqueous humour was clear: the iris still invisible.

March 5th. The appearance of the eye was the same as on the 24th of February; print of the size of the leader in the daily *Times* could be read through an aperture in a card. The patient did not return to the institution.

Remarks. The metallic brightness of the choroid in the first case (xv) permitted an accurate scrutiny of the whole interior of the globe, which left no doubt of the iris having been completely detached. In the other instances, in the absence of an examination by the ophthalmoscope (an instrument which was not used in this country at the time the preceding observations were made), the evidence is not so positive of the whole of the latter membrane having been ruptured from its ciliary attachment, though I believe it to have been so. It is possible that the blow may have rent that membrane into two or more shreds, which then became curled up against the ciliary processes, and hidden from view. The reasonableness of such an hypothesis derives support from those numerous cases where a small portion of the iris becomes folded back, as a result of injury to the ciliary nerves; also by the very perfect retraction that takes place in the flap of a healthy iris in Cheselden's operation for artificial pupil.

I am unacquainted with the clinical records of any case in which the whole of the iris had become absorbed whilst in connexion with the choroid; besides which, the process of absorption would take a much longer period than three weeks for its completion: I conclude, therefore, that the absence of the iris in the present cases cannot be properly referred to that agency.

The fact that Cases xv and xviii were uncomplicated by rupture of the globe precludes the idea of the iris having escaped from the cavity of the eye through a wound, as Mr. Dixon supposed had taken place in a case that fell under his observation.

Case xviii is remarkable, as exhibiting the great injury that may be sustained by the eyes of some individuals, and yet the retina shall, under medical treatment, recover or retain its functional perfection; also for the non-dislocation of the lens; and for the complete success of an active antiphlogistic mode of treatment in general inflammation of the eyeball, when the patient's constitution is of average power.

The *treatment* applicable to such cases as those that have been related, when seen so soon after the accident that inflammatory reaction has not been set up in the organ, will be closure of the injured eye, the constant application of a refrigerant lotion, a saline purgative, and at bed-time an opiate. When there is great pain (oculodynia) after the accident, or general nervous excitement, an anodyne in full dose should precede the purgative. The diet should not include solid animal food, or stimulating drinks, unless the patient is a free liver.

The preceding cases indicate the treatment of the inflammatory stage.

When the organ has become free of congestion and inflammation, and the retina is sensible to light, a snow-spectacle will assist vision, to which must be added a double convex lens, if the power of adjustment is lost or impaired.

Birmingham, April, 1855.

BIBLIOGRAPHICAL NOTICES.

Lectures on the Physical Diagnosis of the Diseases of the Lungs and Heart. By Herbert Davies, M.D., etc. Second Edition, revised and enlarged. London: 1854.

No branch of medicine, whether considered as a science or as an art, has attained nearer to perfection than that which embraces the "Physical Diagnosis of the Diseases of the Lungs and Heart". What, comparatively a few years since, was limited to the chosen few, is now the readily acquired property of almost every student. The study of the stethoscope, like the study of the urine, partakes of the characters of an *exact* study. The method of investigation, the process of reasoning, is not remote from that required in the pursuit of any department of physical science. As a

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