

**On inflammation of the membrane of the aqueous humour of the eye / by
Alexander Watson, M.D.**

Contributors

Watson, Alexander, 1799-1879.
University of Glasgow. Library

Publication/Creation

[Edinburgh] : [Printed by Stark and Company], [1845?]

Persistent URL

<https://wellcomecollection.org/works/r63pgrjn>

Provider

University of Glasgow

License and attribution

This material has been provided by This material has been provided by The University of Glasgow Library. The original may be consulted at The University of Glasgow Library. where the originals may be consulted. This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.



Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
<https://wellcomecollection.org>

With kind regards from the
author

ON
INFLAMMATION
OF THE
MEMBRANE OF THE AQUEOUS HUMOUR OF THE EYE.

By ALEXANDER WATSON, M.D., F.R.C.S.E.
Consulting Surgeon to the Royal Infirmary, and Surgeon to the Eye Infirmary,
&c. &c. Edinburgh.

(From the *Edin. Med. and Surg. Journal*, No. 164.)

THE general characters of the *ophthalmiæ* had been observed by the earliest physicians, and by them handed down from generation to generation until our own times, with very few additional observations.* It has therefore been reserved for the nineteenth century to make those nicer and more important specific distinctions which characterise the ophthalmic surgery of the present day. And although in this path the German surgeons led the way, yet those in Britain have not been slow in employing their talents and acute observation to extend our knowledge of these diseases, as well as to apply their judgment and skill in giving precision to the treatment of them.

To the accounts given concerning those diseases of the eye, which have been so elegantly described and delineated by Dr Wardrop, in his essays on the Morbid Anatomy of the Eye, published about thirty years ago, very little has since been added. But some of these diseases have been subdivided into species and varieties; several additional morbid conditions have been described; and the treatment of ophthalmic diseases generally, has been

* Galenus *de locis affectis*, iv.

Paul of Aegina, Book iii. xxii. The medical works of Paulus Aegineta, translated into English, with a Copious Commentary by Francis Adams, Esq. surgeon. London, 1834, 8vo.

Banister, Richard. A Treatise of 113 Diseases of the Eyes and Eyelids. London, 1622, 12mo.

Maitre-Jean. *Traité des Maladies de l'Oeil et des Remedes propres pour les guerir*. Troyes, 1707, 4to.

St Yves. *Nouveau Traité des Maladies des Yeux*. Paris, 1722.

Janin. *Memoires et Observations anatomiques et physiologiques sur l'Oeil et sur les Maladies qui affectent cet organe, etc.* Paris, 1772.

Benedictus, Traug. *Gul. Gust. de Morbis Oculi Humani Inflammatoriis*. Lipsiae, 1811, 4to.

more completely detailed, in the numerous systematic treatises which have been published since the commencement of the present century. *

The internal *ophthalmiæ* or inflammation of the internal parts of the eye, were, in consequence of their obscure symptoms and difficulty of their investigation, the latest to be recognised and described. They are also the most important, being the most dangerous to vision; yet their presence is not easily detected, and they are often insidious in their invasion, while they are at the same time tedious in their progress and difficult to remove. Indeed, when they are of a chronic character, they may proceed to a considerable extent before their existence is suspected by the patient or recognised by the surgeon; owing to the sight being very gradually impaired, and the eye presenting to an ordinary observer little or no visible morbid change.

Another important peculiarity of the internal *ophthalmiæ* consists in the disease being seldom confined to one part of the organ. One part or texture may at first be affected, but very soon the neighbouring parts participate in it. This extension of disease is readily accounted for by the close and intimate connection which exists between the internal parts of the eyeball, and their dependence on each other. A striking illustration of this was lately afforded in the cases which we had an opportunity of seeing, of internal *ophthalmiæ* which occurred after the *epidemic fever* which prevailed here as well as in Dublin and Glasgow. A slow insidious inflammation of the internal parts of the eye in some cases supervened during or after convalescence from the fever, in which it obviously attacked first the retina, then extended to the choroid coat, the iris, vitreous humour, and cornea, in succession, without causing much pain, or inducing the appearance of inflammation externally, though vision was generally much impaired.

Inflammation of the serous membrane which encircles the aqueous humour of the eye is alluded to by Dr Wardrop only as a highly probable occurrence in the first volume of his essays; but is more fully described in the 2d volume, as also in the 4th volume of the *Medico-Chirurgical Transactions*. Still, the accounts of the disease there given are imperfect, and the modification of it about to be described is not mentioned.

This disease we find afterwards described by Baron von Rosas of Vienna, under the name of *kerato-iritis*.

In the year 1825, I had the honour to submit, to the *Medico-Chirurgical Society of Edinburgh*, a short account of an affection of the eye, under the name of chronic inflammation of the iris, which was afterwards published in the *Transactions of the Society*.

* See the *Treatises of Travers, Lawrence, Mackenzie, Tyrrell, Middlemore, and Watson*.

(Vol. ii.) I adopted this name because the most obvious morbid changes were observed in the iris; although I at the same time stated it to be my opinion that, the disease might rather be considered to be an affection of the membrane of the aqueous humour.

The disease which I described in the essay referred to, consisted in chronic inflammation affecting the more delicate internal parts of the eye, producing effusions of lymph in the chambers of the aqueous humour, followed by irregularity in the form and contraction of the pupillary aperture of the iris, accompanied by loss of sight, to a greater or less degree, according to circumstances. The complaint was also described as insidious in its invasion, slow in its progress, and, in the cases which I had seen, (which had been of old standing) intractable in its treatment. I also showed the analogy which existed between this and inflammation of the serous membranes of other parts of the body.

Since that time I have had many opportunities of verifying my remarks. But by an improvement in the glasses used for examining such diseases, I have been of late enabled to extend my observations so as to acquire a more intimate knowledge of some of those diseases, whose distinctive characters are so minute that they elude the powers of unassisted vision.

By Dr Mackenzie the disease under consideration is described as "a rare ophthalmia," under the title of *Aquo-capsulitis*, in his Treatise on the Eye, published in 1830; but the description of the disease and its treatment are chiefly taken from the essays of Dr Wardrop.

Allusion is made to this disease by Mr Lawrence in his Lectures on the Eye, published in the Lancet in 1826, (Lect. XVI.) But a more full and complete account of it is given in the second edition of his Treatise on Diseases of the Eye, published in 1841.

The disease is also shortly described by Mr Tyrrell in his work on the Eye, published in 1840.

Having premised this account of the history of that species of internal *ophthalmia* affecting the membrane of the aqueous humour, I now proceed to describe a frequent and interesting modification of the disease, attention to which is of much practical importance; for if, on the one hand, it is detected in its early stages, it may be completely cured; while, on the other, if it is allowed to proceed without being recognised and proper remedies applied, it is certain to terminate in causing great imperfection of the sight, or in producing complete blindness.

Perhaps the best mode of explaining the symptoms, characters, and progress of this disease, and its appropriate treatment, is, in the first place, to select a few cases, and then to make a few remarks upon them.

CASE I.—A. B., aged 20. A young lady of delicate constitution ; has frequently had attacks of ophthalmia in spring.

August 26th. Is affected with chronic inflammation of both eyes, which has existed during the last four months. The sight has become very obscure, of both eyes, but especially of the left. There is a deep-seated red zone around the cornea of both eyes, and a few enlarged conjunctival vessels are seen to proceed forwards to the cornea. This increased vascularity of the eyes is easily augmented by any cause of excitement, by the exercise of the organs, or by the application of cold.

The lower part of the cornea of both eyes, but particularly the left, has a slight hazy or nebulous appearance ; but when examined by a strong magnifying glass, the cornea is studded over with distinct, round, whitish spots, (about the size of small pin heads when magnified four or five times), giving it a dotted or mottled appearance, (see Plate.) These spots seem to consist of lymph deposited on the inner surface of the cornea or membrane of the aqueous humour.

The pupils of both eyes are of an irregular form, which is more conspicuous on the application of belladonna. The pupillar margin of the iris is then seen to adhere at different points to the anterior part of the capsule of the lens, by small masses of effused lymph.

General health somewhat disordered and strength much reduced by spare diet, calomel, &c.

To take quinine and rhubarb twice-a day ; hydrargyrus c. calce and Dover's powder, in small doses, every night. More full and strengthening diet, consisting of animal food and wine, and belladonna to be applied every second day. Is also to use frequently a collyrium of acetate of lead and camphor.

September 4th. Has continued the above treatment, which has required no change on account of the progressive improvement which has taken place. The increased vascularity is now gone ; the vision is much improved ; the pupils are more regular in form ; the spots on the cornea are now much fewer and smaller ; and her general health is much improved. To use warm poppy fomentations when any increased excitement takes place.

September 24th. Continued the same treatment, but has taken less of the mercury of late, on account of the mouth having been sensibly affected. The opaque spots on cornea are gone ; right eye nearly well ; pupil of left still somewhat oval when belladonna is applied. To discontinue the medicines gradually.

October 25th. Is better than she has been for several months past.

November 17th. Is now nearly quite well. No specks on cornea ; pupils natural ; vision and general health much improved.

CASE II.—A. F. æt. 18, a copper-plate printer, of somewhat delicate but healthy appearance.

October 21st. Complains of dimness of sight, particularly in the left eye. There is a deep-seated red zone around the cornea. When examined with a magnifying glass, numerous small round opaque spots are seen on the inner surface of the cornea at its lower part. These are more numerous on the left eye, the pupil of which is of an oval form when belladonna is applied. Some pain about the forehead.

States that the complaint came on eight days ago without any evident cause. The loss of sight is much greater than could be accounted for by the spots on the cornea.

The treatment of this case consisted in small doses of quinine and rhubarb, mercurial pills, blisters, and belladonna, which were continued more or less for several months. At the end of December the report of his case is as follows.

Vision has continued gradually to improve. The opaque spots diminished in size and number till they have altogether disappeared. The proper form of the pupil is now restored, and he reports himself to be quite well.

CASE III.—J. F. aged 23, of fair complexion, with yellow hair, and rather delicate appearance.

February 24th. Complains of great dimness of sight, which prevents her from being able to read. The cornea of both eyes, (but especially the right,) is a little hazy or slightly opaque, opposite to the lower part of the pupil. When examined with magnifying glass, the opacity is seen to be caused by small, distinct, opaque points, producing a dotted or mottled appearance. These opaque spots appear to consist of lymph on the inner surface of the cornea. Pupils somewhat irregular in form, and have some adherent points to capsule of lens. Some deep-seated redness forming a zone around the cornea; has no pain.

States that her eyes have been weak for several years, during which time they have often been slightly inflamed. During the last two months, her sight has become much more affected than formerly, and now she cannot see minute objects, and sees very indifferently to go about.

To take a blue pill every second night—Quinine and rhubarb morning and evening.

Belladonna to be applied every second or third day.

Lotion of acetate of lead. Moderate diet, with animal food once a-day.

March 17th. Opaque spots much fewer in number. Sight of

right eye so much improved that she now sees to read. Mercury has not affected her mouth.

April 5th. Continues to improve.

To take the blue pill every second night. Cont. alia.

May 15. This patient is nearly quite well. The spots have disappeared,—the pupil is larger and of more regular form,—and her vision is very much improved.

These cases sufficiently illustrate the nature and character of inflammation of the membrane of the aqueous humour. In the instances here detailed, the disease was of a chronic character ; and was obviously confined chiefly to the membrane lining the chambers of the aqueous humour ; affecting those parts which cover the interior of the cornea, the iris, and capsule of the lens. This was manifest from the effusion of small portions of lymph on these parts, causing the mottled appearance of the cornea, and the irregularity of the pupil, from its adhesion to the capsule of the lens.

In other cases of this disease, particularly in young subjects, the symptoms are more acute, and other parts of the organ partake of the inflammation ; such as the choroid coat, the cornea, the conjunctiva, and even the retina, accompanied with great intolerance of light. And when these parts become affected, the morbid appearances become so complicated, that the peculiar characters of the inflammation of the membrane of the aqueous humour are masked, and often prevented from being recognised.

In cases of more general inflammation of the eyeball, the membrane of the aqueous humour and cornea are much affected ; to such a degree, that the cornea bulges, and forms partial or complete staphyloma from distension. In some cases the sclerotic coat becomes of a bluish colour, or even staphylomatous.

The disease, in some cases, is much less extensive than in the instances above detailed, and is observed to affect only the iris or cornea. In one instance the mottled appearance was confined to the surface of the anterior part of the capsule of the lens. Repeated relapses, or states of acute inflammation, of short duration, are apt to occur. In some cases, too, there is more obscurity of sight than could be accounted for by the opacity of the cornea ; leaving us to infer that other parts, or the retina itself, may be implicated in the disease.

I consider this disease to be a modification of strumous ophthalmia ; and that, therefore, it requires very particular attention to the constitutional as well as local treatment.

The indications requiring attention are, 1st, to subdue states of excitement or acute inflammation by local and general antiphlogistic remedies ; 2d, to stop the progress of the chronic stage of the

inflammation; and 3d, to prevent a relapse by tonics and nourishing diet.

The *first* of these indications is generally answered by topical bleeding, by means of cupping or leeches; the application of warm fomentations and blisters. Purgatives, particularly when combined with antimonials, are very useful auxiliaries. The *second* indication is to be fulfilled by the moderate administration of mercury. But, in the subjects of this disease, mercury requires to be very sparingly given, so as only slowly to affect the system. The *third* indication is to be answered by the giving quinine and rhubarb in small doses two or three times a-day, along with light nourishing diet, including animal food once a-day, and in some cases a small allowance of wine. A combination of quinine and rhubarb seems to me to be the best tonic in cases of strumous ophthalmia, and is the one which I find most generally applicable. But, in some cases, this may not agree, or may, from peculiar circumstances, require to be changed for some others. In such cases, magnesia and rhubarb,—carbonate of soda, with rhubarb or colombo,—or preparations of iron may be used with advantage.

In some cases a *fourth* indication is to relieve excessive distension of the eye, caused by a morbid accumulation of aqueous humour, producing excessive pain of eye, orbit, and head. This is to be accomplished by the puncture of the cornea, as proposed by Dr Wardrop, with a grooved needle, by which the excessive accumulation of fluid is evacuated.

When there is distracting pain from distension of the eyeball, caused by a morbid increase of its humours, by which the ciliary nerves are pressed against the unyielding sclerotic coat, there is no remedy which gives such immediate and complete relief as the evacuation of the aqueous humour, when all other means have failed. If, from continuance of the inflammation, the symptoms requiring it return, the puncture may be repeated with the same beneficial effects in removing the pain and lessening the tension of the eye, which allows the parts to recover from the disease.

Another indication requiring attention is, to obviate irregularity and contraction of the pupil.

The contraction or closure of the pupil is to be prevented by the repeated application of a carefully-prepared solution of extract of belladonna, or a solution of atropine.

In mild genial weather, moderate exercise in the open air during the treatment, and cold bathing when the disease has been removed, are of much importance.

The glasses which I have lately found most useful in examining the characters of diseases of the eye consist of a combination of two plano-convex lenses, of from $1\frac{1}{2}$ to $2\frac{1}{2}$ inches focus. They

are to be placed, with the convex surfaces opposed to each other, at a certain distance, so as to form "*Ramsden's eye-piece.*" These magnify the object from four to eight times, according to the power of the glasses employed. For the purpose in view a more powerful glass is inconvenient, both by requiring to be held too near to the eye of the patient, so that the light is prevented from falling upon it, and by requiring the eye of the observer to be too close to the patient. The focal distance of the glass when complete should be about half an inch ; and a tube, making the instrument altogether nearly three inches long, is an improvement which renders it more convenient. The advantages of this glass are, that it possesses sufficient magnifying power with a very flat field, and is nearly achromatic. The light upon the object may be increased in intensity by being concentrated with another convex lens.

Explanation of Plate I., Figures 7, 8, and 9.

Figure 7. represents the appearance of the eye of the patient, Case II., when magnified.

Figure 8. represents the glasses, combined and constructed as recommended in the preceding pages. This is the modification which I have devised as most suitable to the purpose in view.

Figure 9. represents another modification of the same, in the form of a small telescope which draws out to the proper focal distance.

The distance to which the lenses are placed from each other is two-thirds of the focal distance of one of them. When so combined, they have the power of a single lens, the focal distance of which is three-fourths of that of one of them.

51 *Queen Street,*
Edinburgh, May 1845.

Fig. 7

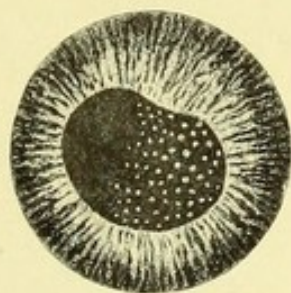


Fig. 8

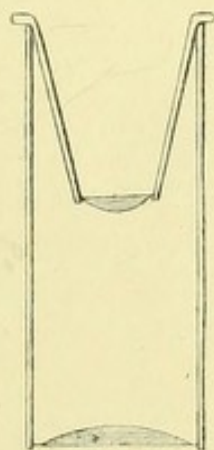
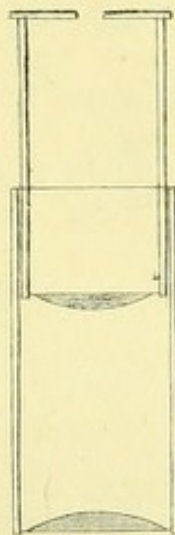
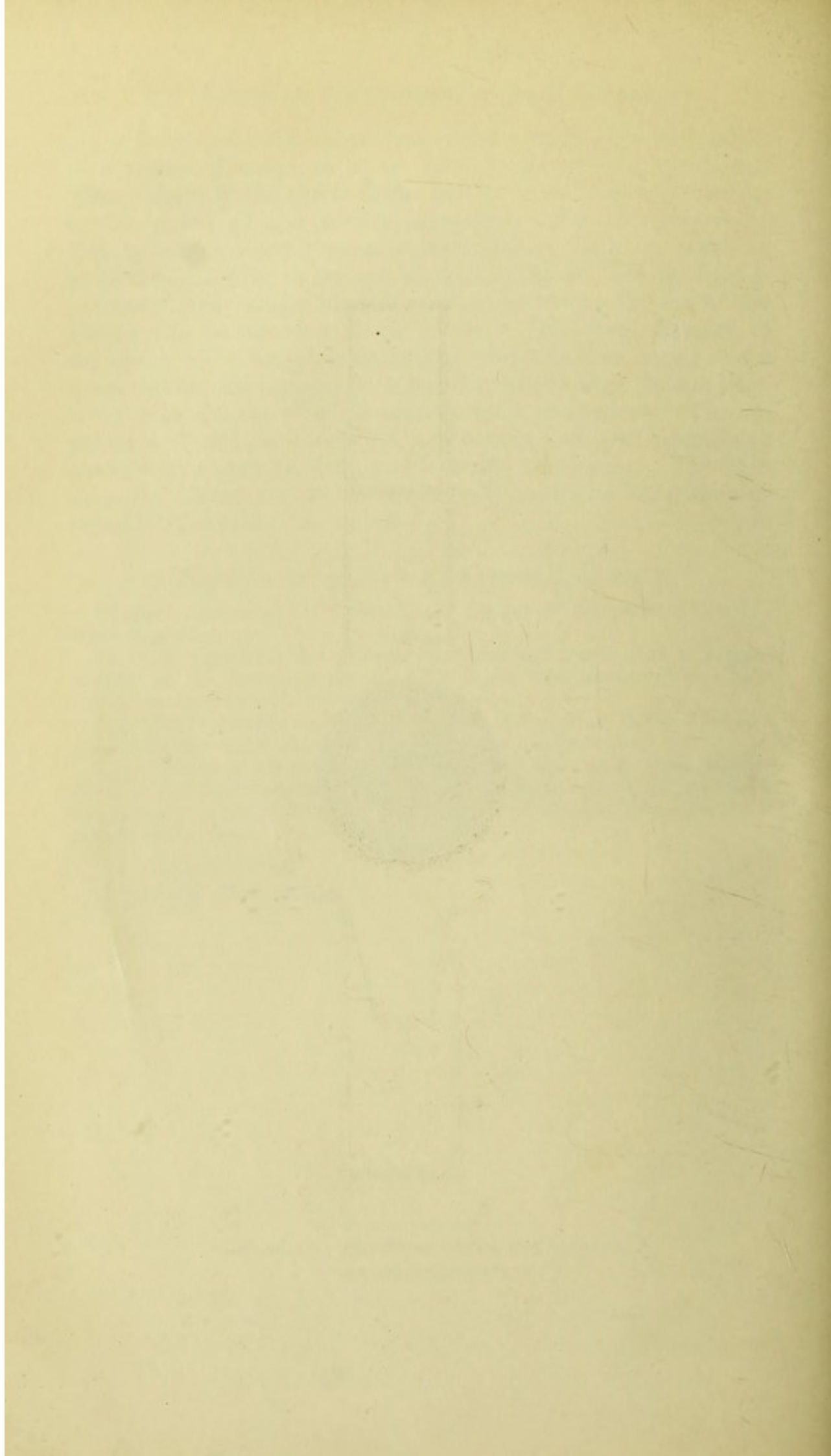
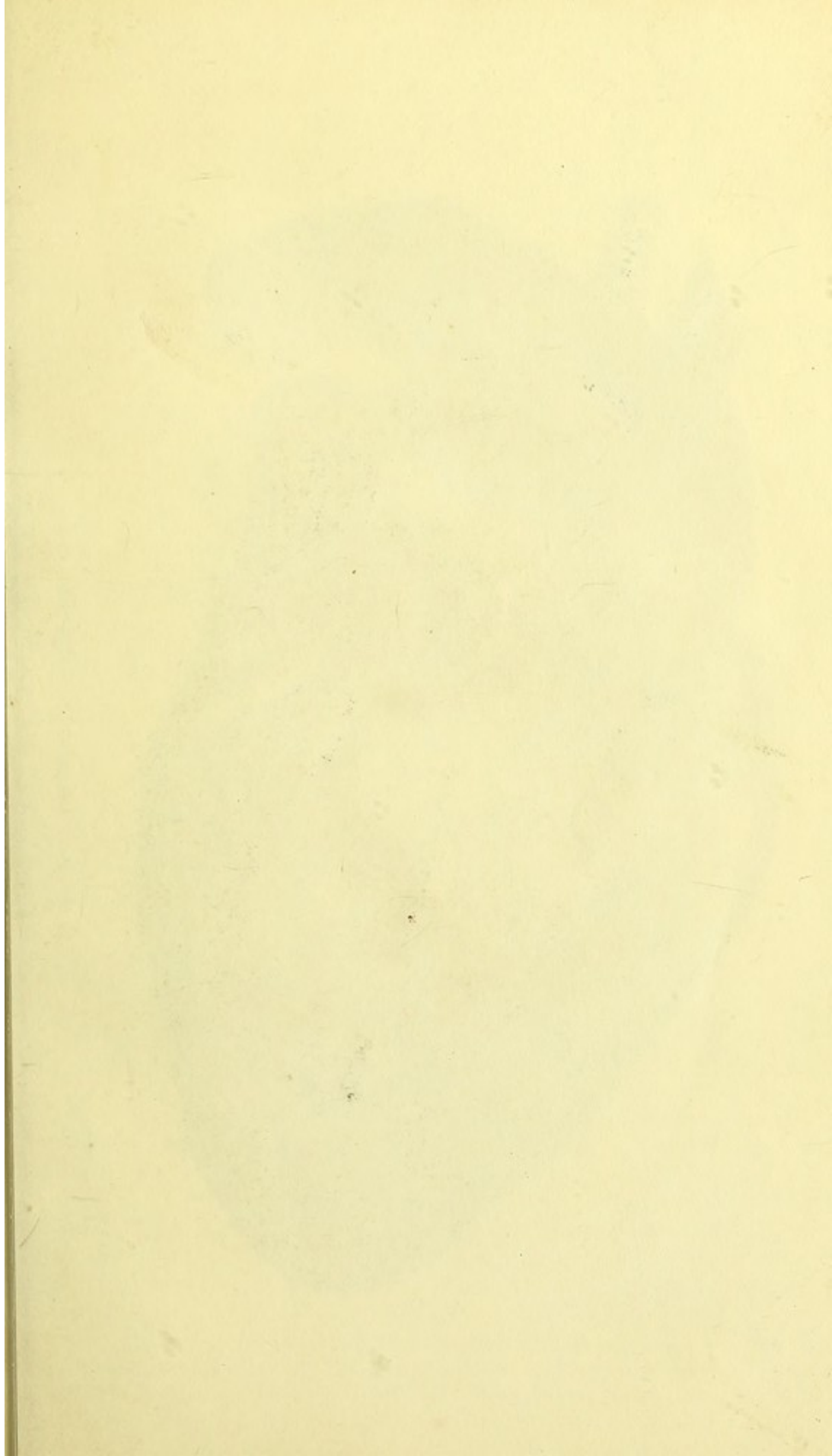
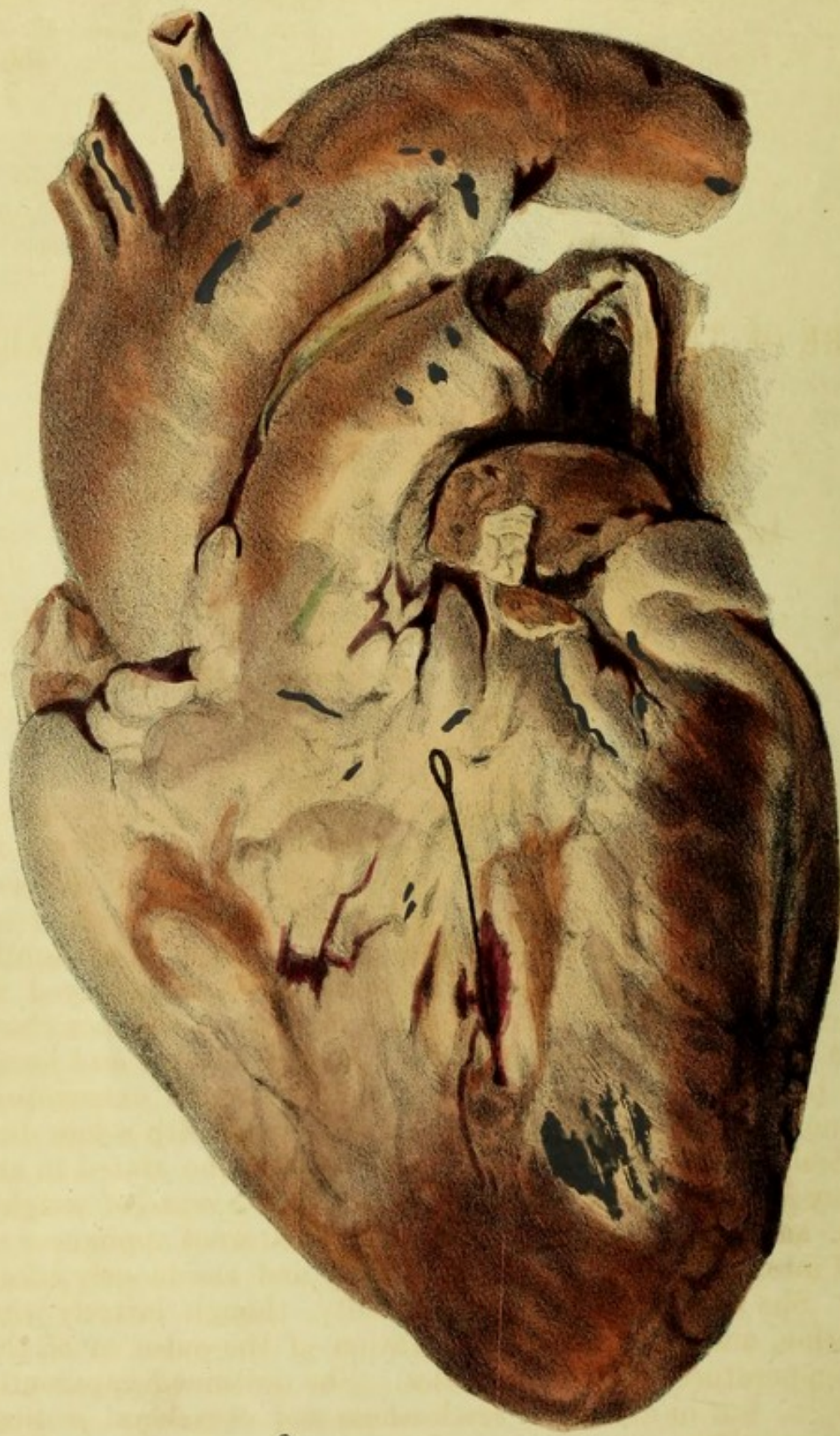


Fig. 9









H. Schenck Lith. Edin.

DR MACLAGAN'S CASE OF
RUPTURE OF THE HEART.