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### Dissertation on iritis

Linus Pierpont Brockett  
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in the  
Medical Institution of Yale College,  
January 18-20,  
1843.

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V.

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Dissertation  
on  
Iritis.

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By  
Linus Pierpont Brockett,  
of Lyme, Connecticut,  
Candidate for the Degree of Doctor in Medicine.

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## Iritis.

Among the many and serious diseases to which the human eye is subject, few are more destructive to the sight, than that which ~~forms~~<sup>is</sup> the subject of this dissertation.

It is about thirty five years since Iritis or, more correctly, Iriditis, was first recognized in Europe, as a distinct disease of the eye, and the diagnosis was not made in this country, between this, and other inflammations of the eye till about the year 1817.

Concerning its history, little is known. The ancients, who seem to have paid less attention to affections of the eye, than of most of the other organs of the body, were entirely ignorant of the nature of this disease, and had probably never distinguished <sup>it</sup> from inflammations of the other tissues of the eye.

The disease has, unquestionably, for reasons which will appear when we come to speak of its causes, been far more prevalent since the latter part of the fifteenth century than



previous to that time; but although frequent cases of it must have occurred, it appears to have been regarded as a malignant conjunctivitis, or Sclerotitis, till the commencement of the present century).

Within the last forty years the attention of Sir Astley Cooper, and Messrs Travers, Saunders and Lawrence in England, Professors Beer and Scarpa on the Continent, and in our own country, Drs. <sup>Hays</sup> Rodgers, Wilkes, Post, and Dix, as well as many others of less note, has been called to the subject, and a flood of light has been thrown upon it, which has rendered the diagnosis and successful treatment of the disease, simple and easy.

In no one instance, perhaps, has the spirit of modern pathological research, and investigation, been crowned with more ample success; hundreds, who, had they been attacked by this disease in former days, would have been compelled to grope their way through life in darkness, now look upon the fair face of day, with unclouded vision.

Dr. J. H. Rodgers, Surgeon of the New York Hospital, and of the eye infirmary, remarked to the writer, in the Spring of 1842, that, while he was House-surgeon of the New York Hospital, some twenty seven years since, he frequently saw cases of Iritis, but as no one was able, at that time to recognize the disease, it was always treated as a severe Conjunctivitis, and the result was that the patient always lost his sight. "I can now recollect," he continued "five or six cases, ~~that~~ <sup>which</sup> went on to total blindness, ~~and~~ which our present knowledge of the nature of the disease, would have enabled us to save."

### Forms of Iritis.

Iritis has been divided, from its duration, into Acute and Chronic; from its causes, into Syphilitic, Arthritic or Rheumatic, and Traumatic Iritis. Dr. Rigby, a distinguished obstetrician of London, has also noticed a variety of the disease, which occurs in what he calls "adynamic puerperal fever," and seems to be an effort on the part of nature to throw off the original disease. — He ~~mentions~~ speaks of several

1. Dr. E. O. Hockley, an ophthalmic surgeon of London, in a paper in the London Lancet of Nov. 19 1842. on Strumous diseases of the eye, remarks, "that Strumous inflammation occasionally affects the Iris." I have never seen a case of Strumous Iritis, nor do I recollect having seen it mentioned by any other writer on Ophthalmic diseases.



cases of it, as having occurred in his practice.

This may, perhaps, with propriety be denominated Purpural Iritis. I am not aware that it is mentioned by any other writer.\*

### Causes.

In a large majority of cases, Iritis is one of the secondary forms of Syphilis, and when Syphilis is not subdued in its local form, but, becomes a Constitutional affection, Iritis occurs in, perhaps, one fifth of the cases.

The usual time for its appearance is about 7 or 8 months after the occurrence of the primary symptoms, although cases are said to have occurred in which the Syphilitic Virus had lain dormant for 18 months.

Iritis is also, sometimes, though rarely, a Gonorrhoeal affection.

Another cause of the disease is Rheumatism or Gout. This may take place by Metastasis, or by continuous progress. The former is perhaps the more frequent.

Another and somewhat frequent cause of the

\* See Rigby's Midwifery, Am. Ed. page 456.

disease is wounds. — These may either be accidental, or the result of some operation upon the eye; thus, the operation for Cataract, and that for artificial pupil, are occasionally followed by Traumatic Iritis. Some cases have recently been reported in the N. Y. Lancet, which show that a blow over the eye, which has not divided any of the external tissues of the eye may produce laceration and inflammation of the Iris.

Sudden exposure to severe Cold, or over-exertion of the eye, from severe study, may produce it. Such cases, however, are rare.

It is more frequently sympathetically affected from inflammation of the other tissues of the eye.

The Chronic form, although it is asserted to have occurred primarily, usually supervenes upon the acute, whenever this has not been treated with sufficient promptness, or the proper course has been neglected.

### Nature of the disease.

Iritis, when idiopathic, seems to be a simple inflammation of the peculiar tissue



8  
of the Iris, without any specific taint; but, which, from the vascularity of that membrane, assumes a degree of virulence, greater than that of any other tissue of the ~~body~~ eye.

When it occurs as a form of secondary Syphilis, the taint of the Syphilitic virus in the blood, is probably as in the case of the Cutaneous Syphilitic ~~eruptions~~ affections, the predisposing cause, while the exciting one may be a slight Conjunctivitis, ~~or~~ other affection of the eye, calling the vitiated blood to that organ and producing Congestion.

That the usual seat of this disease is in the Iris rather than any other of the tissues of the eye, is not, probably, that it possesses any peculiar affinity for the Syphilitic virus, but that, on account of its vascularity, it receives a greater quantity of the vitiated blood. The fact is certain, however, that Iritis is the only affection of the eye, whose Syphilitic origin is clearly made out.

## Symptoms.

These are of two kinds, viz; Local, or those affecting the eye and its appendages; and, General symptoms, or those affecting the whole system.

### Local Symptoms.

1<sup>st</sup> The Iris is changed in color; if in its healthy state it was blue, it assumes a greenish cast; if originally black, its hue is converted into a dark red or brown.

2<sup>d</sup> It is surrounded by a narrow, but in most cases well defined, whitish zone, usually termed the zonula iritica. In the milder cases, this circle is not complete, but extends around a segment of the Iris only; in severe cases it is usually entire.

3<sup>d</sup> Around this whitish circle, we have another zone of a bright pink color, of from one to three lines in width, differing essentially from the scarlet redness of Conjunctivitis, and depending upon the injection of red blood into the minute vessels of the Sclerotica, which seem to form a zonular arrangement around the Cornea.

4<sup>th</sup> The Iris is extremely sluggish in its move-

ments, and when the eye is suddenly closed, or opened, the size of the pupil is but little changed.

5.<sup>th</sup> The pupil undergoes a remarkable change. Early in the disease, it begins to contract, and in this contraction, the muscular fibres seem to act unequally, and render the form of the pupil irregular; as the disease progresses, it continues to contract, until the pupillary opening is entirely closed, or at the utmost, presents <sup>but</sup> a very minute aperture.

6.<sup>th</sup> The cornea presents a muddy & opaque appearance, like ground glass. The natural brilliancy of the eye is destroyed, and it is dull and glazed, like the eye of a corpse. This opacity of the cornea, in a large majority of cases, appears to consist in a turbid state of the aqueous humor, and not in any deposit of pus, or coagulable lymph on the cornea. This point was fully settled by some experiments made, I believe, in Germany, a few years since the cornea when presenting this appearance, was punctured, and the aqueous humor discharged was of a milky appearance. The cornea of course



immediately collapsed; but, when a new secretion of the aqueous humor took place, which, owing to the congested state of the eye, was much more rapid than usual, the cornea was <sup>clear and</sup> transparent as in health.

In some instances, however, when the disease has continued for several days, a deposition of coagulable lymph takes place, usually between the laminae of the cornea, but sometimes, also in the substance of the iris. In a few cases I have observed staphylomas, produced, apparently, by the deposition of lymph in the posterior chamber of the eye; in these cases the eye presented the appearance of an abscess in the eye ball; and the inexperienced practitioner, looking upon the previous symptoms of pain and heat in the eye, as marks of inflammation tending to suppuration, and observing this deposition, would be ~~strongly~~ disposed to puncture the eye, to discharge the purulent matter. To do this, would be to destroy the eye at once, while, the ~~xxx~~ recovery of vision would be complete.

if the ordinary means of subduing inflammation are resorted to, and the eye let alone. Indeed, it is never necessary to puncture the eye in Iritis, for pus rarely or never forms in the eye, in this disease, and the Coagulable lymph, so abundantly deposited in the various tissues of the eye, is, after a time absorbed.

7<sup>th</sup> The tunica albuginea, at a distance from the cornea, retains its pristine whiteness and no red vessels traverse it, as in Conjunctivitis.

8<sup>th</sup> There is usually, though not ~~invariably~~ <sup>invariably</sup>, some intolerance of light, but this, when present, is easily distinguished from the utter dread and aversion to light, which is manifested in sthenous ophthalmia, and <sup>in</sup> Conjunctivitis generally.

9<sup>th</sup> During the height of the disease, the power of vision is totally or nearly ~~lost~~ <sup>lost</sup> in the affected eye.

10<sup>th</sup> It is said, (although this symptom has never come under my notice,) that there is, occasionally, Condylomae of the pupil.

11<sup>th</sup> There is, usually, intense pain in the



eye ball, & over the eyebrows, for about three hours each day. This pain usually comes on toward evening, and in quite a number of cases, in which the writer made inquiries on the subject, he found the time of the commencement of the pain to be about 4 o'clock P. M. and its cessation about 7 P. M.

### General Symptoms.

There is generally, more or less Constitutional disturbance, during the progress of this disease. The pulse is frequently accelerated, and there is some thirst and heat of skin. The febrile symptoms usually come on at the same time with the pain over the eyebrows.

In cases where the disease goes on to destruction of the eye, the Constitutional disturbance is sometimes so severe, as to confine the patient to his room and bed.

Occasionally however we meet with cases of considerable severity, in which, from the commencement to the close of the disease, the <sup>functional</sup> harmony of the system has

not been disturbed.

### Complications.

The inflammation of the Iris, if unchecked, frequently extends to other tissues of the eye, and we have it complicated with Scleritis, Corneitis, Conjunctivitis &c.

These complications may exist from the very commencement of the disease. They may be detected by the increased vascularity of the Cornea or the Conjunctiva, and by the copious lachrymal discharge, accompanied by deep seated pain in the eye, extending to the brow, and head. The tunica albuginea in these cases, displays a more diffused vascularity, and of a more vivid scarlet hue, than in ordinary cases of Iritis. The existence of the white zone around the Iris, in connection with the other symptoms, will assure us that inflammation of that tissue is present.

In syphilitic Iritis, some of the other forms of secondary Syphilis are usually present. Dr. J. N. Rodgers deems the evidence of the syphilitic origin of the disease conclusive when it is

accompanied by a copper-colored eruption  
on the <sup>fore</sup>head or breast.

In Gonorrhoeal Iritis, the discharge usually  
continues during the inflammation of the Iris.  
Rheumatic Iritis is usually co-existent with  
Rheumatism in other parts of the body,  
although it sometimes appears to be the  
result of metastasis. The same may be  
said of Iritis depending upon Gout.

### Diagnosis.

Iritis is, of course, liable to be  
confounded with no diseases except those of  
the eye. From these, the diagnosis though  
somewhat obscure to the unpractised eye,  
is not difficult to one who is accustomed  
to accurate observation.

Iritis is distinguished from Conjunctivitis, by  
the different color and arrangement of the  
injected superficial vessels of the eye.

In Iritis these are of a pink color, <sup>and</sup> form a  
zone around the cornea, while the portions  
of the tunica albuginea remote from the  
cornea, retain their usually pearly whiteness.

Substitute " The vascular state of the cornea in  
Keratitis will prevent us from distinguishing  
the color of the Iris, but "



In Conjunctivitis, on the contrary, these vessels are of a scarlet hue, tortuous in their course, & covering the whole conjunctival membrane, although they are fewer in number, immediately around the Cornea, than in the portions more remote from it. Lachrymation, which is very profuse in Conjunctivitis, is either entirely absent, or very limited in quantity in Iritis. If we add ~~nothing~~ to these marks, the appearance of the Iris and Cornea, the change in the color of the Iris, and the intermitting pain peculiar to Iritis, there will be no difficulty in making out a correct diagnosis.

The diagnosis from Corneitis is equally easy. (The pathognomonic color of the Iris cannot, it is true, be seen distinctly here,) ~~but~~ the irregular and contracted pupil, the white zone around the Iris, and the pink one around the cornea, together with the deep seated pain in the eye ball, will inform us that the malady, we have to treat is less superficial than



the cornea. The inconsiderable amount of lachrymation will also serve as a diagnostic; Corneitis being accompanied by copious lachrymal secretion.

The diagnosis between Sclerotitis and Iritis, is somewhat more difficult; but, fortunately, Sclerotitis is very rare.

The pink zone around the cornea is very similar in the two diseases; but the zonula Iritica, the change in the color of the iris, the deep-seated intermittent pain, and the peculiar appearance of the cornea, unless the inflammation has extended to that tissue, will usually be sufficiently strong diagnostics, to enable us to pronounce with certainty, as to the nature of the disease.

When the disease is of Syphilitic origin its diagnosis may be easily made out, as Primary Sclerotitis is rarely or never a form of Secondary Syphilis.

The above are, I believe, the only affections of the eye, at all resembling Iritis, or liable to be mistaken for it.

## Prognosis.

If called before the inflammation has extended to the Cornea, or other tissues of the eye, or any apparent lesion, or structural alteration has taken place, the Prognosis, if a judicious course is pursued, is favorable. The eye may, in such cases, generally, be saved with <sup>the</sup> vision perfect, or but slightly impaired. But if there is considerable Staphyloma - if the pupil is fully closed - the pain severe - and the ball of the eye, upon gentle pressure with the finger, communicates a sensation of a contained liquid - the prognosis is unfavorable. Nothing but the most judicious and vigorous treatment, will save even imperfect vision, to the unfortunate patient.

The Acute form usually destroys the eye in from 4 to 7 days if not arrested. The Chronic form is much slower in its progress.

## Treatment.

The treatment of this disease seems to be well settled. Few diseases yield with greater certainty to appropriate remedies, when

seasonably & skilfully applied.

In robust persons, it is necessary to promise general bleeding, and an active antiphlogistic course; but, as a majority of the cases of this disease, which are met with in practice, occur in persons of irregular habits, who have enfeebled their health, and exhausted their strength, by their excesses, general blood-letting will rarely be required.

In such cases great benefit will be found to result from the application of cups and leeches to the temples.

Drs. Rodgers and Wilkes, surgeons of the N. Y. Eye infirmary, informed the writer, that, although they were in the habit of treating between two and three hundred cases of Iritis, annually, in that institution, they had never yet met with a single case, in which they deemed general bloodletting necessary. Such cases may occur, however, in private practice.

After depletion, either general or local, the alimentary canal should be thoroughly



20  
evacuated ~~is~~ by the administration of an  
emetic and Cathartic. The formula of  
the N. Y. Eye Infirmary for this purpose  
is the following;

R. Calomel. ℥ss.  
Pulv. Antimoniatis ℥j  
Opii. gr. iij

M. et divide in Chartulas

xij <sup>perque.</sup> unus horae quartae unicus

The particular Cathartic or emetic used in  
these cases, is, Chorroa a matter of little  
consequence, provided the stomach and  
bowels are thoroughly evacuated.

The diet must, from the commencement  
of the disease, be carefully restricted - no  
meat, or ~~stews~~ Condiments, no stim-  
ulating, or indigestible food, and no  
stimulating drinks must be allowed,  
on any plea whatever - and all excite-  
ment, either physical, or mental, must be  
studiously avoided. Gruel, milk porridge,  
mush and melops, and other farinaceous  
articles may be allowed. The drink should be <sup>water.</sup> pure,



The next step, in cases of Syphilitic Iritis, is the administration of mercurials till incipient ptyalism is produced.

I say incipient ptyalism, because, although not partaking in any degree of the popular prejudice against the use of the various preparations of mercury, I cannot but regard ptyalism as one of the most serious evils to which we can subject a patient. The loathsome odor it gives to the breath; the affections of the teeth; the liability to Rheumatic and Pseudo-syphilitic affections; the susceptibility to cold; and the impossibility of using so important a remedy as mercury, without danger of a recurrence of the salivations, are all so many strong reasons why we should hesitate, before resolving to produce full and copious ptyalism, unless in those cases, in which the life of the patient depends upon the production of the Constitutional effect of the remedy.

But to return to the subject. The system should be kept under the influence of mercurials, till

every symptom of the disease has passed away; and it is wonderful how immediately the disease begins to wane and decrease, upon the first indication that the system is mercurialized. The eye that yesterday presented an opaque, dull and death-like appearance, is to day brighter, the cornea more transparent, and the pink zone, which surrounded it, is fading away like the hues of the rainbow, when the storm has passed.

The preparation of mercury used, is a matter of comparatively little importance. In acute cases perhaps there is no better form than the blue mass, combined with a little opium, to prevent it from acting on the bowels. In severe cases, it is frequently necessary to hasten the Constitutional effect of the remedy by the use of the Unguentum Hydrargyri. This may be rubbed into the glands of the neck, axilla, or groin.

It now and then happens that we find a case of Syphilitic Iritis occurring in a person, who has already been freely salivated for Syphilis,

or in whom the scrofulous or cachectic diathesis prevails in so marked a degree, as to preclude the use of mercurials. In these cases we have a valuable substitute in the Iodide of Potassium.\*

The following formula is used generally in these cases by the Surgeons of the N. Y. Eye Infirmary;

R<sub>4</sub> Potassii Iodidii ℥j  
Sarzæ Syrupi ℥ij M.

S. Dose, one ounce every four or six hours.

The Iodide may also be given in the form of Pills if preferred; or in some cases the Biniodide of Mercury, or the Iodo-Hydrargyrate of Potassium, may be used with advantage.

The Iodide of Potassium usually produces slight ptyalism; The same is true with the other preparations of Iodine, to which I have referred.

The Extract or Tinct. of Stramonium or of Belladonna should be used to dilate the Pupil, and prevent its closure. The Stramonium is preferred in this country, from the fact that its preparations are more certain than those of an unreported plant.

The extract is the preparation used in the N. Y. Eye Infirmary in the form of ointment ℥ij to ℥j of Lard.  
See a case of this kind reported in the N. Y. Lancet for Aug 27. 1842 pp. 139-40.



It should be rubbed upon the forehead, immediately over the eyebrows.

When the pain over the eyebrows, and in the globe of the eye is very severe, the application of mercurial ointment to the brow is frequently followed by almost immediate relief.

Blisters should not be applied in the earlier stages of the disease, as they only add to the irritation and inflammation of the eye. At a later period they may be applied to the nape of the neck, or behind the ears, with benefit.

The only articles, except pure river or rain water, which are at all beneficial as Collyria, are an infusion of Opium  $\text{ʒj}$  <sup>or</sup>  $\text{ʒij}$  to the  $\text{ʒj}$  of water, or a very weak infusion of Tobacco  $\text{ʒss}$  to  $\text{ʒj}$  of water. These may be used five or six times a day.

In Rheumatic, or Gouty Iritis, the free use of mercurials, is not attended with such marked benefit, as in the syphilitic form.

Generally, and local depletion, are usually requisite, and may be followed by a moderate dose of some of the preparations of mer-

\* The following elegant formula for the administration of this somewhat nauseous remedy was copied, I believe, from Ferrucii's Library of Practical ~~Library~~ Medicine;

℞. Ol. Turbinto.	ʒij.
Vitel. ovi.	ʒi.
Syrupi. Aurant.	ʒij.
Emulsionis Amygdal.	ʒiv.
Al. Capiae	ʒttij.
Tinct. Lavand. Camp.	ʒiv.

M.

℞. Dose two teaspoonsful three or four times a day.

cury. To these, should succeed the usual remedies for Rheumatism affecting other organs.

Among these, the Vinum Colchici, the Tinct. Actaeae Racemosae, the Tinct. Sanguinariae, and the Terbinthimates, will be found most useful.

The last seem to be peculiarly adapted to this form of the disease. The oil of Turpentine is, perhaps, the best of its class for this purpose. The taste may be disguised by the addition of aromatics.\*

Traumatic Iritis more frequently goes on to the destruction of the eye, than the other forms.

If, in examining a case of Iritis inflammation, the result of an injury, we find the globe of the eye soft, and giving a sensation of a contained liquid under the finger, we may usually consider the case as one beyond the influence of the healing art. Occasionally, however, even under these aggravated symptoms, vision more or less perfect may be preserved. But if promptly and judiciously treated, this does not seem to be more obstinate than the other forms of the disease.



\* See two cases of Traumatic Iritis, reported  
by Middleton Goldsmith M.D. in the  
N. Y. Lancet of Aug. 20 1842.

The course to be pursued is similar to that directed for syphilitic Iritis, except that the action of mercurials is not requisite, for so long a period, as in that form of the disease.\*

Of the treatment of Puerperal Iritis, I am unprepared to speak from personal observation. Dr Ryby says, that, although Ulyalism was induced in every case that came under his notice, yet five out of six lost their eyes.

The treatment of Chronic Iritis, does not differ essentially from that of the Acute form. The mercurial course may be mild, and there is no need of hastening the constitutional effect of the remedy. In persons of stumous habit, the Iodide of Potassium will be found serviceable.

In these Chronic cases, we derive great benefit from the judicious administration of the Purbinthialis. If the persistence of the disease appears to be owing to a want of tone in the system generally, the use of some of the Tonic

bitters will be of service.

It not unfrequently happens that Iritis, although so much subdued as not to effect any lesion of the tissues of the eye, produces closure of the pupil, and thus vision is lost.

These cases after the subsidence of the inflammation, offer some of the best subjects for the operation for artificial pupil; and by this operation, sight may be restored to many of those who have lost their vision through the error or inattention of their medical attendants.

Such then is the History of Iritis; such its causes, symptoms, diagnosis, and treatment. I could wish they had been detailed by an abler pen; but can only offer in apology for the imperfections of this attempt, that it was drawn up by an unpracticed hand, amid the onerous duties of a course of lectures, without suitable books of reference, and principally from brief notes of cases, which had fallen under my own observation. As such, I submit it.

New Haven, Dec. 24. 1842.

Sirius Pierpont Brockett  
of Lyme, Conn.





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