

AN
INAUGURAL DISSERTATION
ON

Cataract

SUBMITTED TO THE
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BY

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To

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Professors of Medicine and Surgery
in the

Medical Department of the University of Nashville
This humble effort of their student is
respectfully dedicated

The Author

After an examination of
 the many subjects presenting themselves, in the extensive
 fields of Medical sciences, as suitable topics for an
 "Inaugural Dissertation"; I have chosen as the subject
 of my Thesis some of the operations in surgery;
 and we shall commence with a description of,
 Cataract;

This may be defined to be, "an opacity of the chry-
 talline lens or its capsule. We divide cataract
 into three varieties viz. Capsular, Lenticular,
 and Capsulo-lenticular, the first of these va-
 rieties being opacity of the capsule, the se-
 cond of the lens, and the third opacity of both.
 The chrystalline lens and its capsule at ^{the same} time.
 We also divide cataract into the true and spurious
 varieties. The last owing its origin to organized
 fibrin in the pupil, presenting a yellow or whi-
 tish appearance, and causing adhesion between
 the lens, and the Iris. The spurious variety,
 may also owe its origin to an injury received

causing the effusion of blood, or by setting up inflammation; the effusion of pus, into the chambers of the aqueous humor. The opacity of capsular cataract may, be either anterior, or posterior; or it may, involve every part of the capsule. The distinction between capsular and lenticular Cataract is easily made.

1st By position. The opacity, is nearer the pupil in capsular, than in lenticular

2nd On lenticular Cataract the opacity, first forms in the centre of the lens, and in capsular cataract the opacity may commence at any point on the membrane.

3rd On lenticular Cataract, the opacity, is generally uniform, and of an amber color, in the capsular variety it is not uniform, but presents a spotted; white; striated; or glistening appearance. Cataract has also been divided into the hard and soft varieties, and into the radiated; and morgagnian varieties.

The hard variety occurs in old persons and has a brown yellowish tint, The lens is shrunken and a dark ring surrounds the cataract; The Iris is movable. The soft variety on the contrary occurs in the young; The lens in this form is in consistence like cheese, of a white appearance, The Iris is generally immovable. The lens having become swollen presses against it, thus interfering with its movements. Soft cataract occasions a greater degree of blindness than hard, and is met with in congenital cases.

Radiated cataract - The opacity in this form commences in streaks at the circumference and as the disease advances converge in radiated lines towards the centre, vision is more or less interfered with, depending upon the degree of light, images seeming double, or distorted, depending upon the reflection of light from the opaque lines. We regard the Morgagnian variety supposed to depend upon an increase of and change

of quality in the aqua Morgagni as a variety of the soft cataract already considered.

Causes of Cataract... This defect is sometimes "congenital and always chronic" It may be the result of a direct or indirect injury to the eye producing inflammation and disintegration of the lens or its capsule. We often find the affection existing in jewelers printers and those artisans where business requires a constant strain upon the eye especially if in conjunction with this the head is kept low. From the fact that old persons are most generally the subjects of cataract it has been concluded that it might owe its origin to defective nutrition occurring from changes going on in the vascular or lymphatic systems. We generally find a plurality of cases existing in warm climates giving rise to the presumption that climate may have something to do with it.

Diagnosis - symptoms. The most prominent
 symptom in cataract is the impairment
 of vision, at first objects are seen as through
 thin gauze, as the disease advances vision
 becomes more and more indistinct, objects are
 seen double or distorted. Specks or spots
 are seen floating in the indistinct field
 of vision with occasional vivid streaks of light.
 The eye may be either the seat of normal or -
 abnormal sensations, pain in the forehead
 over the eye is frequently complained of.
 Vision becomes more indistinct as the disease
 advances but is never entirely lost. Cataract
 may be confounded with Glaucoma, or
 Amaurosis, but by attention to the following
 rules we may always distinguish them.
 1st In cataract, an opaque body may be seen behind
 the pupil, whereas in Amaurosis it either
 shows a green color or the pupil is natural,
 In Glaucoma the green color is seen alone

2nd On Cataract Vision is better in a dull light, in Amaurios and Glaucoma the contrary is true.

3rd The Catoptrical Text in Cataract describes the images in the eye, in Amaurios they are seen; and in Glaucoma are only slightly obliterated in the advanced stages of the disease.

Prognosis - Our prognosis in this disease will of course be influenced by circumstances. If the patient is temperate, of slight frame, has no scrofulous diathesis, is of good health, if the Iris moves; and the Retina is sensitive to impressions, if the weather was good at the time the operation was performed, if there is no excitement about the head and no complication with Amaurios, or Glaucoma, our prognosis would be favorable. A contrary state of affairs would be unfavorable to the patient.

Treatment— In the treatment of cataract we have either to choose the palliative or direct. We need never expect to cure this disease save by an operation, we may however for a time stay its progress, by the following means. Keeps the bowels in a good condition. Use counterirritation with cups or leeches. By the same means relieve vascular fullness. Stimulate the Lachrymal glands to secrete tears. And lastly regulate the admission of light. This mode is however at best but palliative, and unless the patient claims the aid of surgery his eyes will remain chambers of darkness forever. Before surgery interferes however; it has been thought best that the cataract mature. We shall give the preparatory treatment for each operation separate immediately before the operation itself is described, thus making the points of difference more plain.

Modes of operating. We have three modes of operating for the cure of Cataract. VIZ -
 1st By Extraction. 2nd By Depression and
 3^d The operation to promote absorption. By
 extraction, The cataract is removed through
 an opening made through the Cornea.

Preparatory treatment. The patient if anæmic
 must be put upon the use of Tonics. A good
 mercurial cathartic followed by salts must be
 given. all uneasy sensations about the
 head should be removed. and the day
 before operating a good emetic should be
 administered.

Operation for Extraction. The patient
 being seated with a good light falling
 upon the eye the surgeon directs his
 Assistant to steady the patients head also
 with his forefinger to raise the eyelid
 and hold it against the upper margin
 of the Orbit. The Operator seated before

The patient then depresses the lower lid
 and steadies the ball with the two first
 fingers of the left hand preventing the
 eyeball rolling inwards during the operation.
 Holding the Cornea knife like a pen
 in the right hand he punctures the
 Cornea about one line from the sclerotic
 coat and passes it in a perpendicular
 direction into the anterior chamber of
 the eye. The direction is now changed and
 the point of the knife is made to cut out at
 a point ^{opposite} corresponding to that of its entrance.
 The operator must now make his section
 complete, The incision should extend
 more than one half round the Cornea.
 At this instant the assistant should let the
 lid fall, that the eye may rest and the
 pupil dilate. After a short interval
 has elapsed the surgeon opens the lids and
 cautiously introduces a Curette and gently

Lacerates the lens. Withdrawing the instrument with the convexity looking downward then by making gentle pressure upon the upper and under surface of the eyeball. The lens rises up through the pupil and may be extracted. If the Iris prolapses the eye should be exposed to a bright light. The flaps of the Cornea are then adjusted and the operation is done.

After Treatment

The eye must be closed and a soft piece of lint retained by a bandage placed upon it. The patient should now be put to bed and kept perfectly quiet by means of Opium Laudanum or Morphia. The diet should be mild and Mastication forbidden. His bowels should be kept open by Cal. Magg Magnesia and Charcoal should inflammation occur it must be met

ly cups and leeches applied to the temples and around the eye, should this not prove sufficient, a blister to the back of the neck with anodynes should be resorted to and a brisk cathartic. While Convalescing the patient should wear a shade and accustom his eye gradually to the light

Preparatory Treatment for Depression or Touching

This is the same as for the preceding except that before this operation we apply a Belladonna plaster on the eyebrow and lids for the purpose of dilating the pupil. or drop two or three drops of the following solution in the eye Atropia 2 grs Aqual (Dist) one ounce. There are several ways of performing this operation but we shall content ourselves with the one most usually performed. This particular mode of operation is adapted to hard cataracts

Operation The pupils are well dilated
 before the operation is commenced The of-
 fices of the assistants are the same.
 The surgeon passes his couching needle
 into the Sclerotic coat two lines
 posterior to the junction of the cornea
 and a little below the transverse axis
 of the eye so that the long ciliary
 arteries may not be wounded and passes
 the needle directly through the anterior
 Chamber of the eye, between the Iris and
 the Lens, The hand is now depressed a
 little and the point of the instru-
 ment is brought against the Lens,
 By elevating the hand the lens is
 pressed downwards, and backwards,
 until it is without the axis of
 vision it should be held thus for
 a moment and if it rises it must be
 pushed back again. If it is too

soft to be pressed out of the axis of vision, he would destroy its integrity with the instrument, that it may be carried away by absorption.

The after treatment is the same as for extraction.

Operation for causing absorption.

General preparatory treatment the same as for the preceding. The needle is passed in between the Iris and the lens as for depression, the anterior layer of the capsule is divided by it and it is then passed two or three times into the substance of the lens. After two or three weeks the same is to be repeated and the lens broken up. If the lens is sufficiently soft it must be pushed into the anterior chamber of the eye, that absorption may take place quickly. In this way

The operation is to be repeated until the whole is removed by absorption.

There is a variety of this operation called the Keratonyxis operation.

The needle is passed through the cornea an eighth of an inch from its margin, and the capsule is then divided to the extent of the pupil. There is danger in this operation of causing vitis. The after treatment is the same as for extraction.

Operation of Drilling - Pass a straight needle through the pupil entering at the centre of the cornea, puncture the Lens to the depth of $\frac{1}{16}$ of an inch and then rotate it. This operation several times repeated causes the absorption of the cataract.

This Thesis Gentlemen is respectfully
submitted for your inspection. That
it contains many imperfections I
am aware yet I would not ask that
they be overlooked. but that they
be remembered against me, for
the reason, that they have arose
from no defect of the Teacher but
because the Student has failed to
reach the high point^{to} which he
might have attained under your
able instructions

De Witt Clinton Day