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REMARKS ON CATARACT,

FROM THE

CLINIQUE OF M. ROUX, PARIS.

By MM. MAUNOURY AND THORE.

There are few diseases in the whole range of surgery to which the statistical method is more readily applicable than to cataract. The symptoms of this disease are few and easily ascertained, its diagnosis generally not difficult, and the operations adopted for its removal may be reduced to the two principal methods of depression and extraction. Hence we have been induced to apply the numerical method to the study of this disease, and to analyse twenty-nine cases, which were carefully observed in all their details, during the year 1841, in the wards of Professor Roux. By grouping together the points of these cases, and comparing them with others, we may hope to arrive at some valuable conclusions.

I. CAUSES.—Little is known respecting the proximate cause of this disease; of 67 persons laboring under it we find—

Age.	1841.	Age.	1840.
To 10½ years .	2	From 15 to 20	1
From 21 to 30	2	31 to 40	2
31 to 40	2	41 to 50	3
41 to 50	3	51 to 60	6
51 to 60	6	61 to 70	9
61 to 70	9	71 to 80	5
71 to 80	5	81 to 90	1
81 to 90	1		
Total . .	29	Total . . .	38

This table shows that cataract is of rare occurrence before the age of manhood, but begins to show itself frequently between the ages of 50 and 70. The few number of cases which occur after this latter period is explained by the small number of individuals who attain a very advanced age. Cataract, in the child, is generally a congenital disease; but in the case of the child 10 years old it was developed at the age of 8 years, without any appreciable cause, and occurred on one side only. In two persons, one of 21, the other of 22 years, it was membranous, and arose from external injury to the eye. It is only from 38 to 40 that it begins to occur frequently and appear spontaneously, the exceptions to this rule being rare.

Sex.—Both sexes seem equally subject, according to writers, but men appear to be more frequently attacked than women. M. Fabini reckons, in 500 cases, 268 males and 232 females; Dupuytren, in 207 cases, gives 132 males, 72 females; the 38 cases which occurred in the Hôtel-Dieu, in 1840, were equally divided amongst men and women; but in 1841 there were only 7 females amongst the 29 patients.

A correction, however, must be made for the cases admitted under M. Roux; for the beds allotted to females are much fewer in number than those set apart for males.

Profession.—Notwithstanding the opinion of M. Maunoir, it is generally admitted that the action of strong light on the eyes may promote the formation of cataract; and the same remark applies to any profession which requires excessive exercise of the visual organ. Of 22 male patients, three were placed under the circumstances alluded to; one being a farrier, another employed in enamelling, and a third in blowing a furnace; three were agriculturists. Of seven women, three were employed in the cultivation of the vine, one was a sempstress, and another a worker in lace.

The following facts illustrate the influence of color of the iris on the tendency to cataract. This color was noted down in 28 cases; in 10 it was fallow; in 10 brown; in 8 grey; a brownish color, varying from light fallow to the deepest brown, is the most common one observed in the eyes of people laboring under cataract, as it is in the eyes of people in general; and for the same cause we have a brown or orange-colored iris in patients affected with amaurosis.

The influence of hereditary predisposition has been well proved. M. Roux operated on three brothers of the same family; the father had labored under the same disease and a fourth child was afterwards attacked.

Amongst the exciting causes of cataract we must mention, as the chief, wounds or contusions of the globe of the eye. A man, 70 years of age, received a violent blow while exploding a mine. He became blind on the spot; three months afterwards vision was partially restored, but it gradually got weak again, and a cataract formed. One of the young persons already mentioned had received a wound from an arrow in the eye; another patient had struck himself violently against a tree. Cataract may be produced by any severe injury or violence inflicted in the neighbourhood of the eye. Thus, a soldier received a violent blow on the side of the head from a loaf of bread; the eye was not hurt; but two or three days afterwards vision of that side became weak, and was lost. In this, as in the former case, the cataract affected the crystalline lens; in the two others it was membranous.

II. PROGRESS.—Does cataract occur more frequently on one side than on the other? In 17 cases it occurred 11 times on the left side and 6 times on the right; and if we reject three cases of traumatic cataract we shall have 5 on the right and 9 on the left side; however, a more careful sifting of the cases shows that there is very little predominance in favor of the left side.

As to the time which elapses between the first

diminution of vision and its complete loss, accurate information could be obtained for 30 eyes only. In two cases of traumatic cataract the opacity of the lens occurred almost immediately after the accident. Complete blindness occurred after the expiration of

10 months in	2 cases.
1 year	10
1½	3
2	4
2½	5
3	2
4	1
5	1

Total 28

Thus, in the majority of cases the lens becomes opaque within the period of a year, and as a general rule it may be laid down that blindness takes place within one or two years.

III. SYMPTOMS.—Vision gradually diminishes and is finally lost; but this never occurs as completely as in cases of amaurosis. When the edges of the lens are not quite opaque the patient seeks an obscure situation, and as the pupil dilates, some little vision is permitted. Four patients could distinguish a few objects in the evening and morning, though they were quite blind during the day. Four could distinguish the shadow of the finger, when placed before the eyes; in twenty cases the patients were merely able to distinguish very strong light from darkness.

State of the Eyes.—In three cases the senile circle was strongly marked; in one the pupil was greatly dilated, and but little contractile; after operation, no amaurosis was found to exist; in two cases the pupil was strongly contracted; in the majority (26) it was neither contracted nor dilated. As the operation generally performed by M. Roux was extraction, it was easy to ascertain the state of the lens, and compare it with its condition as seen behind the iris. Two states of the lens were chiefly noticed; in one it presented a whitish grey opacity, divided in all directions by very white striæ; in the other the opacity was of a deep uniform grey, without striæ of any kind. In the first series, the lens, when extracted, was of a brownish yellow color, dry, hard, and not enveloped in any gelatinous fluid, except in cases where it was whiter, and then the hard nucleus was surrounded by a thin layer of this fluid. In the second series the lens was of a tawny yellow color; less firm towards the centre, very soft, and enveloped in a viscid, semi-fluid substance. In a variety of the second series it was reduced to a matter like paste. These results confirm the observations which have been made by other writers; they show that the striated appearance indicates that the lens is hard and consistent. Three cases deserve a separate notice from their peculiarity. In the case of a child, 10 years old, the surface of the lens was of an uniform grey color, but this surface was cut by two brilliant white striæ, in the form of a T. In another case there was a small, dull, white point, not larger than a pin's head, in the middle of the lens, which latter was of a greyish color, and free from striæ; when extracted, the lens was of a foxy color, and the white spot presented the same appearance as it did when in the eye.

Much diversity of opinion prevails amongst surgeons

as to the relative frequency of capsular and lenticular cataracts. M. Maunoir found only 5 cases of capsular cataract in 221, while Dupuytren found 2 in 5 cases. This enormous difference can only be explained by the differences of operation employed. When depression is the method adopted, it is impossible for the surgeon to determine exactly the nature of the cataract. Of 41 cases, of cataract where extraction was the method adopted, the lens was found affected in all.

IV. DIAGNOSIS.—Upon this point little can be said, as no difficulty was ever experienced in determining the exact nature of the disease. It was always an easy matter to distinguish between cataract and amaurosis. In the most incurable form of amaurosis, M. Roux is in the habit of noticing a symptom which often leads him to diagnosticate the disease; and this is an extreme hardness of the globe of the eye, which feels almost as hard as stone under the fingers. It is more difficult to diagnosticate black cataract; but this is a very rare disease. The following case illustrates a curious form of disease, which cannot be classed under cataract, although analogous to it. A young girl, 26 years of age, was admitted into the Hôtel-Dieu, on the 15th of April, 1838. Her sight had become gradually weaker for the last eight years; she can now merely distinguish light from darkness, but is unable to see objects; she can see a little better under a feeble light than a bright one. The pupil is dark, with a light greenish grey tint; the iris grey and contractile; the eyeballs prominent, large, and somewhat firm. On trying the eye with the candle, the inverted image is found to be wanting; the deep one imperfect and enlarged. On the 30th of April the left lens was extracted; it was semitransparent, and not totally free from color, though less yellow than the other lenses extracted on the same day. The posterior surface was bulged and marked by about thirty pale striæ, which converged to a centre like radii; the anterior surface was free from striæ; the centre of the lens was less firm than its surface. The power of vision was restored on this side. On the 21st of May the right lens was also extracted, and it presented exactly the same appearances. The second operation was as successful as the first.

V. PROGNOSIS.—Before the surgeon has recourse to any operation for cataract, he should carefully examine the state of the patient and weigh all indications, whether favorable or unfavorable. Without speaking of such diseases of the visual apparatus as completely contraindicate the operation—viz., amaurosis, atrophy, large spots on the cornea, &c., we shall dwell on those general conditions, and the particular states of the eye, &c., which are favorable or unfavorable to the operation.

Season.—Writers generally agree that the best time for operating is spring, summer, or the commencement of autumn; but a very hot season is just as unfavorable as a very cold one.

Age.—It is natural to conclude that an advanced age is unfavorable to the success of the operation, and the following table shows that up to the age of 50 the results are favorable, and that after that period the cures and failures are so equally balanced, as to prove that advanced age is not so very unfavorable a circumstance as has been supposed. Thus, in the period between 61 and 70, we have 9 cases of

success for 6 failures. One patient, 76 years of age, underwent the operation in both eyes, and recovered perfectly:—

No. of Cases.	Age.	No. of Eyes.	Success.	Failure.	Doubtful.
1	10½	1	1	0	0
2	21 to 30	2	1	0	1
2	31 to 40	2	2	0	0
3	41 to 50	3	2	0	1
6	51 to 60	9	4	4	1
9	61 to 70	16	9	6	1
5	71 to 80	6	4	2	0
1	81 to 90	2	0	2	0
29		41	23	14	4

Still it appears that from 51 to 60, only one half of the cases are successful; in the next period the proportion of cures (9 to 16) is something greater; while from 71 to 80 the operation succeeded in two-thirds of the cases.

Side Operated on.—We are convinced that the operation succeeds more frequently on the left side than on the right, and the reason of this is evident. The left eye is operated on by the right hand, and *vice versa*. When both eyes are affected by cataract, the operator almost always commences with the left eye. Now the patient may be steady under the first operation, yet he will be uneasy under the second one; besides, however practised the surgeon may be, his left hand is seldom so sure or delicate as his right.

Left side	Good eyes	15
"	Bad	7
"	Doubtful	1
		23
Right side	Good eyes	8
"	Bad	7
"	Doubtful	3
		18

It has been said that the double operation is more successful than the single one; but our observations would tend to prove the reverse.

In 13 cases of operation on one eye only, 10 cures; 3 failures. Total 13

In 24 cases of operation on both eyes at the same time, 13 cures; 11 failures. Total 24
—
37

In the first series one-third of the cases were failures; in the second series, nearly one-half.

State of the Eye.—The points to be examined in connection with this division of the subject are the condition of the constituent parts of the eye, its position in the orbit, and the manner in which it is covered by the lids. When the eyelids are close set on each other, the operator is impeded considerably, more especially if extraction be the method which he adopts. In cases of this kind it will be advisable to perform depression. The conformation of the eyelids now alluded to occurred in two patients and in a very high degree; both eyes were operated on in each; two succeeded, and two failed.

The eyeball may be so deeply set in the orbit that it is impossible to bring the point of the cataract knife out at the opposite side of the cornea; in several cases, where this existed in a moderate degree:

only, the difficulty of extraction was rendered extreme; this condition, therefore, also indicates the propriety of our having recourse to depression.

The following facts prove the correctness of these remarks:—In 7 cases where the eyeball was slightly sunken, there were 5 cures, 2 failures; but in 8 cases, where the globe of the eye was very deeply sunken, 7 failures occurred.

Prominence of the eyeball is attended with its inconvenience also, and may favor the expulsion of the vitreous humor; but this condition must be rare, as it was noticed once only, and in a slight degree. The case succeeded.

There was no example of spots on the cornea in any of the cases operated on, if we except the children who had received wounds of the eye. Three old persons presented the circular opacity of the cornea, called senile circle; 5 operations were performed on them, and of these 3 succeeded, 2 failed. The circular opacity probably exercises little influence on the operation, unless it be very extensive and encroach on the centre of the cornea.

The natural color of the iris, according to M. Roux's experience, exercises some influence on the result of the operation. The favorable condition does not so much consist in the presence of any particular color of the iris, as in the natural color, whatever it may be, being a clear one. M. Roux affirms that, *ceteris paribus*, the operation for cataract is more successful when the iris is of a grey blue color, &c., than when it is of a deep tint. He does not pretend to explain this, but mentions in connection with it a fact which probably depends on the same cause—viz., that a very common species of cataract with amaurosis is observed in small brown eyes much more frequently than in those of a clear color.

Our observations fully confirm the opinion of M. Roux, which was based on long experience. Thus, in 15 persons with clear grey or light blue eyes, the operation succeeded 11, and failed 4 times. In 13 others, with brown iris, we find 6 cases of success, 5 failures, and 2 doubtful. In 13 other cases, where the iris was of a deeper color, we have 7 failures, 4 cures and doubtful.

Is there any connection between the different states of the lens already noticed and the prognosis of this operation? In order to avoid repetition we have merely noted the cases in which the lens was hard, and those where it was softened completely, or at its circumference. The result leads to little that is positive upon this point.

In 16 cases where the lens was hard, 11 cures, 5 failures; in 13 cases where it was softened, 9 cures, 4 failures.

The state of the pupil, and the rapidity with which it dilates or contracts, afford highly useful indications. Every surgeon knows that no operation should be attempted when the dilatation and immobility of the pupil indicate the existence of amaurosis. In one case the pupil was nearly insensible, but as the cataract had arisen in consequence of injury to the eye, the operation was performed; there was partial amaurosis.

The discharge of any quantity of the vitreous humor is always an unfavorable circumstance. In one case where this occurred, vision was perfectly restored;

but in a second, although the quantity lost was considerable, the power of sight was lost. The same remark applies to any wound of the iris during the operation, or effusion of blood into either chamber. This latter accident happened in one case, which failed. In a case of depression the iris was slightly touched by the knife, and this excited several accesses of vomiting, but the case terminated successfully. When the corneal flap is too small, the pressure required for the extraction of the lens may give rise to discharge of the aqueous humor. In such a case it may be necessary to enlarge the flap with the scissors, and this may be a source of inconvenience. In other cases the same inconvenience may arise from the opening into the capsule not being free enough; but such accidents are rare, and were never the cause of any serious mischief.

VI. *Operation*.—The comparative advantages of extraction and depression have been long the theme of discussion amongst surgeons. It is well known that M. Roux prefers the former method, and he supports his preference by the following arguments:—"As a general method of operation for cataract, extraction has decided advantages over depression. My opinion upon this point is not one of those prejudices which are taken up casually and strengthened by custom. It is founded on a great number of facts. When I commenced the practice of surgery I neither had nor could have had any opinion on a subject which then divided and still divides the opinions of the best practitioners.

I determined to be guided by facts and observations alone, and I continued the latter during eight or ten years. One year I performed more extractions, another more depressions; but I was always careful that the cases should be as similar as the nature of things would admit, with respect to the species of cataract, the individual health, and every thing which might be supposed to have any influence on the result of the operation. Indeed, in a great many cases of double cataract I performed extraction on one side and depression on the other.

During these ten years I performed about 600 operations on 400 persons, one-half by extraction and one-half by depression, and I witnessed the results of about 100 others in which extraction was performed by M. Boyer; and the result of my experience is that the number of complete cures is much greater after extraction than depression, and I have consequently adopted the former method.

It must be clearly understood that these remarks (written in 1819) apply to depression as a *general* method; for I know that several cases may present themselves in which the operation by extraction must be abandoned, and that by depression substituted for it."

The following is a description of M. Roux's mode of operating. The points peculiar to him are only noticed, as the details of the operation are too well known to require any description here. The patient is submitted for a few days to preparatory treatment, his diet is moderate, he takes a few laxative draughts, and has some foot-baths, &c. In every case, without exception, a blister is placed on the neck, immediately before the operation, and if any signs of plethora exist, some blood is taken from the arm. Belladonna is very seldom employed. The patient and operator

are both seated, the latter on a higher seat than the former. When the usual preparations have been made, an assistant raises the eyelid with the index finger of the right hand for the left eye, and *vice versa*, supporting the chin with the other hand. He should make slight pressure on the globe of the eye, until the section of the cornea has been finished. M. Roux makes an oblique flap, according to Wenzel's method, and uses Richter's knife (Beer's) with the common curette.

In drawing up any statistical account of the results obtained by the operation for cataract, it is necessary to distinguish the number of operations performed from the number of individuals operated on. The operations practised on the same individual, in cases of double cataract, should be counted as two operations; for different methods may have been employed, and the operation on one eye may have been very simple, while that on the other may have been exceedingly difficult.

The following is an analysis of M. Roux's operations in 1816 to 1819:—

In 1816, 75 operations on 40 patients. Eyes operated on, 75; failures, 26; cures 49. Persons operated on, 40; failures, 8; cures, 32.

In 1817, 85 operations on 53 patients. Eyes operated on, 85; failures, 37; cures, 48. Persons operated on, 53; failures, 15; cures, 38.

In 1818, 78 operations on 46 patients. Eyes operated on, 78; failures, 34; cures, 44. Persons operated on, 46; failures, 16; cures, 30.

In 1819, 68 operations on 38 patients. Eyes operated on, 68; failures, 21; cures, 47. Persons operated on, 38; failures, 6; cures, 32.

Total, 306 operations on 177 patients.

Proportion of cures to eyes operated on, 188 to 306, or about three-fifths. Proportion of cures to patients operated on, 132 to 177—about seven-tenths.

The conclusions to be drawn from the cases observed by us are very similar.

Patients 29 . . .	Extraction 24	{	Success	19
			Failures	3
			Doubtful	2
	Depression 5	{	Success	3
			Failures	1
			Doubtful	1
Eyes operated on 41	Extraction 35	{	Success	21
			Failures	12
			Doubtful	2
	Depression 6	{	Success	2
			Failures	2
			Doubtful	2

Here, if we omit doubtful cases and add instead the cases of 3 patients operated on in private practice, we have—

Extraction, 25 persons; 22 success; 3 failures. Extraction, 38 eyes; 25 success; 13 failures.

Proportion of failures to cures in respect to patients, as 1 to 8; in respect to eyes, as 1 to 3.

VII. *AFTER TREATMENT*.—After the operation, the patient's eyes are covered with a bandage, and he is placed in a bed carefully protected from light by green curtains; he should lie on his back, and move as little as possible. Four full days after the operation the eye may be examined, and after this period it should

be washed three times a-day with water. About the tenth or twelfth day, according to the state of the eye, the patient wears blue spectacles. The blister must be kept suppurating until all fear of inflammation has subsided.

In some cases the results of the operation are most favorable (12); in others, a temporary displacement of the iris was noticed; in others (6), there was some injection of the conjunctiva, which disappeared in a few days.

Sometimes the result of the case may be rendered doubtful by the appearance of certain unfavorable symptoms. Thus in three cases a yellowish false membrane was formed, in a week or two, at the lower part of the flap, which it pushed forwards; it did not, however, extend, and the wound united by a kind of second intention. The false membrane was finally absorbed, and the cornea recovered its transparency. In one case chemosis and effusion between the layers of the cornea occurred; but these yielded to the application of a second blister to the neck.

In two cases of depression, the lens ascended into its former place, and it was necessary to repeat the operation, which succeeded.

Closure of the pupil, which presented itself in five cases, was successfully treated by frictions with the extract of belladonna over the eyelids, and the pupil recovered very nearly its normal appearance. In one case of depression the pupil was obliterated on both sides.

When the dressings are removed, about the fourth day, it is often easy to see the results of the operation. An unfavorable issue may be expected when the bandage is impregnated with pus, and this is still more to be apprehended if the eyelids are red and swollen. The inflammatory symptoms which occur after the operation of extraction are, generally speaking, much more severe than those following depression, although the results of both are the same. In the former case the superficial parts are more attacked, and inflammation of the cornea sets in; in the latter, the inflammation occupies the iris and deep-seated parts.—*Gazette Med. de Paris*, No. 53.

PRACTICAL OBSERVATIONS

ON

DISEASES OF THE SKIN.

By THOMAS H. BURGESS, M.D., &c.

No. II.

ERUPTIONS OF THE FACE.

The present paper shall be occupied with the history of *acne*, a disease which belongs almost specially to the face; but, before discussing the nature, &c., of this affection, I shall take the opportunity of offering a few incidental remarks on the revolution which has been attempted to be established within the last few years in cutaneous pathology.

The theory of the vegetable origin of certain diseases of the scalp, first propounded by Unger in 1833, has attracted the attention of dermatologists to that subject, and has found several followers, amongst whom I may mention the names of Schönlein, Gruby, Meynier, and Gibert. The disciples of Unger have extended the application of his theory to cutaneous

eruptions of other parts of the body. Thus we find M. Gruby recently announcing the vegetable origin of *mentagra* or *sycosis*; in short, that this disease is a sort of cryptogamic plant. This writer considers the vegetations supposed to exist in *favus* as belonging to the group of *mycodermata*; while Unger is of opinion that the *favi* are analogous to the "exanthemata of plants." The arguments put forward in support of this very important view are by no means satisfactory or conclusive; and even admitting the existence of these vegetable fungi in *favus*, *sycosis*, &c., it is sufficiently evident, from the memoirs of Gruby and Dr. Hughes Bennett, that they are the *result*, and not the *cause*, of these diseases; moreover, it does not appear that they are invariably present in all cases. It seems to me that these said vegetations are mere *moulds* consecutive of the elementary disease, and not the disease itself. Mr. Erichsen, in his excellent treatise on diseases of the scalp, also rejects this view, and advances it as his opinion that the elementary lesion of *favus* is *tubercle*. When treating of diseases of the scalp, I shall enter fully into this interesting subject.

While M. Gruby and others are advocating the *vegetable* origin of certain cutaneous diseases, a new theory is advanced by M. Héreau, after thirty years' experience in the treatment of skin affections, who argues that all those eruptions of the skin known under the name of *dartres*, *teignes*, &c., are produced by *animalculi*, which are developed in the skin, and that these diseases can be cured by destroying the parasites with local applications, as in the case of scabies. M. Héreau presented a memoir to the French Academy during the past summer, in which he produces an imposing array of cases illustrative of his peculiar views, but failed to produce the insect. For example, out of 280 cases of *eczema*, he states that 88 cases of the acute form of that eruption were cured within twelve days, and 192 cases of chronic *eczema* within forty days, without *general* treatment, and simply by means of baths, lotions of warm water, lotions or ablutions with a solution of the deutochloruret of mercury, or by frictions on the diseased surfaces with a preparation composed of sulphur, sulphate of mercury, essence of lavender, and common soap, which he calls *dermaphile*. *Mentagra*, or *sycosis*, has also given way under similar treatment; and in 108 cases of cure, 69 were effected in ten days, and 39 in five days only. In 1,300 cases of *impetigo*, 700 were cured in nineteen days, 380 in eight days, and 220 in three days, by the local remedies above mentioned. Even *porrigo* has not been proof against the "dermaphile," for M. Héreau states that out of 287 cases of cure, 180 were effected in less than nine days by this and the other topical applications mentioned, and 107 in the course of nineteen days, *without any relapse*. In 120 cases of *herpes* of the face and other parts, a cure was effected "almost instantaneously" by simple local applications with the solution of the deutochloruret of mercury. M. Héreau seems to have a most extensive practice, and the immense mass of cases which he furnishes invests his theory with a certain degree of importance, which otherwise would not attach to it. There is something suspicious in the universal success of a plan of treatment in his hands, which has so often failed with others.