

in all cases on which he operated and later stated that he did not advise it, but always did it. In his paper to-day he reported a case where he did not remove the appendix, and therefore there is no difference of opinion between us. I am absolutely opposed to the method of operating suggested by Dr. Price. He says that he breaks up the abscess walls, which in my opinion not only harms the patient, but may kill him. It kills patients that do not need to be lost. As to the matter of statistics, I said that 13 per cent. of recurrences after drainage was too large and I still believe it. I must enter a most earnest protest against the statistics given by Dr. McRae, i. e., that 75 per cent. of the cases operated on recur if the appendix is not removed. I am aware of the fact that there is nothing so fallacious as facts, except figures, but making all due allowance, we must not accept this statement. I believe I understood Dr. Murphy, and I believe the impression he leaves is a wrong one, i. e., that when a case is so bad that it scarcely has a chance of recovery he leaves it to the physician. I do not think he means this. I am too sympathetic to let any of these patients die without operation, and 99 per cent. of them will probably die, do what you will; but every now and then you will save one and you will not kill any. Every surgeon should give a patient a chance for his life, and I think that we should be very careful as to the impression we leave regarding statistics. I was very glad to hear Dr. Ochsner's explanation of his method of treatment.

One man reported 175 cases of appendicitis, including severe pus cases, with only 7 deaths; I must say that he is playing in better luck than any operator I know—that is all.

DR. J. B. DEEVER, closing—While Dr. Senn and I are the best friends, it is evident we do not agree on the subject under discussion. Dr. Senn says that I am a man of extreme ideas; I am glad to go on record as such on the subject of appendicitis. Gentlemen who visit the German Hospital have ample opportunity of seeing many of my cases after operation, and can testify as to the result. I operate as soon as I can make the diagnosis and do not wait until the eleventh hour to do it, which will mean crape on the door. I regret to say that I have not one iota of confidence in the judgment of a man who says that he can wait until pus is present, for such a man knows nothing of the gravity of the disease. I could cite case after case were it necessary, but I would like to ask how many men there are here this afternoon some of whose friends would not have been saved had they had the treatment I advocate. My cases number in the thousands, and I simply say that I know in the majority of instances when a case has appendicitis, and I also know that when such is the case the appendix should come out. This subject has been very thoroughly discussed, but I confess I am much grieved to hear some of the utterances made. It is our mission to promulgate the doctrine which will save and not destroy lives.

Dr. Keen said in Denver that a living man with an appendix is better than a dead man without; I should say that in my opinion a living man without an appendix is better than a dead man with one. Dr. Keen says that I do not operate on every case, and that is true. I may not have the conveniences at hand, friends may object, and the patient may be practically dead when I am called. I do not believe any of us can cure general septic peritonitis. My experience is that in the latter case death is more painful after an operation than before it. I am arguing from the standpoint only which will save the greatest number of lives. Dr. Keen states that early operation will save more lives than late operations, and he also mentions that he sees many cases very late. Why? Because of the teaching that we should wait several days, when the patient is thought to be doing well, before doing anything. I regret seriously that such a stand should be taken. No men have my regrets more than Drs. Senn and Keen, for they are promulgating a theory which will cost many lives.

Hydrogen Peroxid as a Hemostatic.—The *Sem. Méd.* quotes Rifaux to the effect that hydrogen peroxid is extremely effective as a hemostatic. A tampon moistened with it and inserted in the nasal fossa in case of hemorrhage will arrest even the most serious and uncontrollable epistaxis.

TREATMENT OF IMMATURE CATARACT.*

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Non-progressive cortical opacities are very rare. The opacity accompanying congenital coloboma of the lens, the partial cortical cataract caused by the adhesion of a retained or acquired pupillary membrane and some forms of traumatic partial cataract do not progress. The anterior punctate cortical cataract, the posterior cortical cataract and the form of zonular cataract, in which the zone is situated well in the cortex of the lens, are extremely slowly progressive. Traumatic partial cataracts, with or without perforation of the capsule, sometimes become stationary and in a few cases the opacification partly disappears. Anterior and posterior polar cataracts are almost always stationary. The small white congenital cataract which occupies the center of the lens and apparently includes only those fibers that are formed during the second stage of development of the lens, the axial congenital cataract and a few cataracts with mixed opacities, are stationary or nearly so. Some forms of monocular stellar cataract, probably of traumatic origin, do not advance. Zonular cataract almost invariably becomes denser as the individual increases in years and in not a few cases general opacification of the entire cortex follows.

The development of cataract is due to a departure from the normal in the nutrition of the lens. The change which takes place in the lens structure may be either hyperplastic and degenerative, or simply degenerative. Cataract which forms during the course of an iritis, cyclitis, choroiditis, or which accompanies intraocular neoplasm, not infrequently presents a swollen appearance, a thickened capsule and a multiplication of epithelial cells. The epithelial cells form in masses on the posterior surface of the anterior capsule, produce cystoid cells at or near the equator of the lens, and sometimes more or less completely cover the anterior surface of the posterior capsule. This form of cataract is sometimes spoken of as inflammatory. To designate these cataracts as inflammatory is plainly a misnomer, since their development is due to perverted nutrition only. In traumatic cataract, with infection of the lens substance, a multiplication of germs takes place in the lens accompanied by an infiltration of small cells and a disintegration of lens fibers. In no other condition will we find a true phakitis.

Cases in which medicinal therapeutics are indicated, due to the condition of the interior of the eye, are those in which intraocular disease, other than cataract, is present, choroiditis, iritis, cyclitis, glaucoma, retinitis, parenchymatous kerato-iritis, atheroma of retinal vessels, etc. The treatment should, of course, be local and constitutional and does not differ because of the presence of opacities in the lens, from that which would otherwise be employed. The influence of such treatment on the lens structure is not to clear up existing opacities, but to prevent further opacification by improving or by preventing further impairment of the nutrition to the lens.

Medicinal therapeutics and other measures to improve health based on the constitutional condition of the patient have a wide range and are of value in preventing the progress of cataract, but are of no importance in causing a disappearance of opacities that have already formed. In atheroma of the vessels,

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arterio-capillary sclerosis, rheumatic or gouty diathesis, diabetes mellitus, albuminuria, pernicious anemia, extreme prostration and impairment of the health from any cause, proper therapeutic measures should be resorted to. I have had the pleasure of recording the arrest of opacification of the lens in patients whose general condition has been much improved by tonic and other treatment.

The question regarding the value of local therapeutic measures, such as massage, absorbents—so-called—or stimulating remedies introduced into the conjunctival sac, and electricity, in the early stage of senile cataract, to prevent progression in the opacification of the lens or to cause existing opacities to disappear, although very old, is one of much interest. All are apparently agreed that opacification of the crystalline lens is the result of impaired nutrition to the lens. Attempts to improve the nutrition to the lens are perfectly legitimate, and I do not think it beyond the possibilities to so influence the circulation of the eye, in some cases, that the progress of the cataract may be delayed. One who is familiar with the anatomical changes present in incipient or advanced senile cataract, of all kinds, must recognize the futility of attempts to cause opacities that already exist to disappear to any marked extent, and must recognize the fact that he who claims to cause the lens to again become transparent is either a knave or a fool. The prevention of opacification is quite another thing and is well worthy of careful study.

From the knowledge afforded by a study of the reports of methods for ripening cataract, the influence of traumatism on the lens and the results of massage of the eye as applied by others, I am of the opinion that this measure is not of much value in the prevention of opacification of the lens. It has fallen to my lot to operate for the removal of mature cataract on a number of individuals who have been subjected to massage of the eye for many months by those who profess to "absorb" cataract by this means.

Electricity in various ways has been applied by others to patients on whom I have subsequently operated for the removal of cataract. Personally, I have no knowledge that electricity has any effect in improving the nutrition of the eye; however, I am not in a position to bear positive evidence against it. I am of the opinion that the beneficial results to be obtained by its use are disproportional to the time and expense necessary to its proper application.

It is, of course, well known that opacification of the lens in some cases advances to a certain stage, becomes stationary and so remains for a varying length of time. Because of this it is difficult to ascertain what benefit is derived by treatment directed to the arrest of the development of cataract. Only by observing a relatively large number of cases and comparing those treated with similar cases not treated, will we be able to decide the value of any course of medication. For the last twelve years I have been directing some of my patients afflicted with incipient cataract, to employ stimulating collyria and moist heat to the eyes, for the purpose of ascertaining what influence the treatment would have on the development of the cataract. I am not as yet ready to report on this study further than to state that the results are sufficiently encouraging to cause me to feel justified in continuing. It should be added that the general condition of the patient is improved to the greatest possible extent, and so maintained in all of these cases.

It is generally known that changes in the refraction of the lens frequently occur during the development of cataract and that the adjustment of glasses in the earlier stages may improve the vision. In a case recently observed, myopia of 3 D. developed. In all cases where vision can be improved, glasses should be given, not with the expectation of producing any effect on the development of the cataract but for the increase of vision only.

In cases of nuclear, zonular, polar or axial cataract, either in youth or in age, if the tension of the globe is normal and the vision is improved thereby, a weak solution of atropin, sufficiently strong to produce a moderate dilatation of the pupil, may be employed often enough to maintain maximum vision.

Myotics are seldom required, but in certain rare cases where the axis of the lens is comparatively transparent and the apices of the opaque sectors, from the equator of the lens, enter the normal pupillary area and disturb vision, and in those cases where the development of cataract is accompanied by increase in tension as when the lens is swollen, a myotic may be employed. Pilocarpin is usually sufficient, but eserine may be required in some cases.

Regarding the operative procedures advisable in non-progressive cataract, the writer is of the opinion that optical iridectomy is advisable only in those cases where vision can be brought up to 20/40 or better by use of a mydriatic, and a correction of the error of refraction if any exists. This degree of vision should be obtained to permit the individual to pursue the ordinary vocations of life.

In all other cases of cataract where the fundus is normal the removal of the lens is necessary. In operating for the removal of immature cataract a number of procedures are open to us: In young individuals, needling of the lens with or without subsequent extraction of the broken-up lens substance by means of small linear incision in the cornea; preliminary iridectomy, with or without direct or indirect trituration of the lens, for the purpose of hastening the maturity of the cataract, applicable to old or young individuals; extraction either simple or combined. In a paper read before this Section in 1895 entitled, "The Treatment of Some Forms of Zonular and Immature Cataract," in which twenty-five cases were reported, I stated that I had abandoned the ripening operations for the reason that the facility of removal was not sufficiently increased to warrant the extra risk and trouble to the patient. I have not changed the views there expressed. Whenever in the development of cataract, the vision is reduced to such a degree that the individual can not follow the ordinary vocations of life, provided there is any reason for not waiting until the cataract is mature, I do not hesitate to advise operation. The choice of the method to be employed in removing the cataract depends upon the case. How to operate permits of an exercise of judgment, and the surgeon who is best equipped, in the way of experience and in a knowledge of the anatomical and pathological conditions present will succeed best.

DISCUSSION ON "IMMATURE CATARACT AND ITS TREATMENT," P. 1467, BY DR. G. E. DE SCHWEINITZ.

DR. S. D. RISLEY, Philadelphia—I am personally indebted to Dr. de Schweinitz for bringing this subject once more before the Section. The first paper I had the honor of bringing before this Section, during the presidency of Dr. Connor, in 1889, was on the subject of "Incipient Cataract, Its Etiology and Treatment." That paper was based on a careful analysis

of 80 cases of immature and incipient cataract seen in my private practice. I then took the ground to which Dr. de Schweinitz has kindly alluded this afternoon, that the term senile cataract seemed to present the idea of old age as the sole cause of the disease. In contradiction of this view, I stated that the majority of old people do not have opacities of the lens; that though the lens may become straw-yellow in old age, it becomes cataractous only in exceptional cases; that therefore in those who did have cataract we should conclude there was some extraordinary cause producing it. The analysis of 80 cases seemed to show that this cause existed in disease, more or less pronounced, of the uveal tract of the eye. I showed, furthermore, in those cases that in a very large percentage of them not only was there demonstrable disease of the choroid in the eye in which the lens was sufficiently transparent to permit study of the eye-ground, but that floating vitreous opacities were present, and that in the majority, or at least a very large percentage, the individual suffered from headaches, asthenopia, red eyelids, chronic conjunctivitis of the congestive type, etc. In those cases in which the opacity is fixed and non-progressive, it is fair to presume that at some time in the history of that case the conditions I have alluded to were present, but when they reached such a stage that the light was partially excluded and the eye was permitted to rest the disease of the choroid gradually subsided and the opacity did not advance to maturity. This was my conception of the history and cause of opacity of the lens, and I argued that if I could arrest the cause by treatment I could probably arrest the progress of the opacity. I want to say here, and I think it should go distinctly on the records of the Section, that we never see the slightest disappearance of an opacity in the lens. I said then, and I say now, I have never seen such opacities disappear. Where an opacity is formed in the lens you can rest assured it will remain there and I think we should say so in order to prevent imposition on the community by the charlatans who advertise the removal of cataract by absorption.

The lower and inner quadrant is the portion of the lens where most of these opacities begin, and it is just this portion of the choroid that is most exposed to the light. Dr. de Schweinitz, at my suggestion, some years ago studied the condition of the choroids of a large number of stokers, and showed that the portion of the eye exposed to the heat and light was most frequently the site of inflammation and frequently presented opacities of the lens at that portion.

We shall often find that by the prolonged use of mydriatics, the correction of errors of refraction, and by the internal use of potassium iodid and other alteratives, the disease of the choroid is arrested, the acuity of vision very much improved, and the progress of incipient opacity of the lens arrested. There is one other point I wish to emphasize and that is concerning the surgical interference for the ripening of these immature cataracts. I observed carefully a series of 25 cases in which I did this operation. In many of these I did not succeed in making the slightest change, even in the opacity of the anterior cortex. A few seemed to ripen rapidly, but when I tried to extract the lens I found the posterior cortex clear and unaffected by the previous operation. Furthermore, in those instances in which the lens cortex was affected by the rubbing the subsequent extraction became difficult because of the glue-like tenacity with which the cortex adhered to the capsule. I quite agree entirely with the reader of the paper in the statement that he would very much rather take chances of extracting an immature cataract than to extract one which we have endeavored to ripen.

Dr. J. A. LIPPINCOTT, Pittsburgh—I wish to express also, as Dr. Risley did, my gratitude to Dr. de Schweinitz for his very able paper. His conclusions are so reasonable that we must certainly all agree with him. I certainly do and my experience has extended over a long time. I just desire to add that I have seen three or four cases of these opacities of the lens that were beautifully symmetrical in the shape of spokes of a wheel, and which lasted in three cases for 16 or 17 years, finally culminating in perfectly opaque cataracts on which I operated.

Dr. W. H. BATES, New York City—I had a patient, 70 years of age, with lenticular opacities. About the time she was under my treatment I became acquainted with a gentleman of New York City, a physician in regular practice, a member of the New York Academy of Medicine, a graduate of Dublin University, and a very bright man, Dr. James E. Kelly. I sent this patient to Dr. Kelly for general treatment. Before she went to see him her vision was 15/200 from the incipient cataract. She came back to me in three months, and I can tell you positively that she then had no opacity of the lens, and her vision was 15/10. That is three years ago, and I saw the lady recently and she still has the same vision and no opacities. I have seen a second case in which there were opacities, and under the treatment of Dr. Kelly and in the course of a few months the lenses became perfectly clear. A third case, a patient 60 years old, with very prominent characteristic opacities of the lens and a vision of 15/50 with correcting glasses, was sent to Dr. Kelly, and in three months' time her vision was improved to 15/10, and a number of the opacities had disappeared.

Now, what did he do for them? I do not know. He told me, or tries to tell me, and the patients say he gives them water, at least three quarts a day, and has them go through exercises. Now, why does he give them water and exercise? The cataractous lens contains a great deal less water than the normal lens. That may be the reason this treatment helps them. I noticed in the patients he treated that the skin became clear where before it had been muddy, which is a condition found in many old persons; after a general hygienic treatment the skin becomes more like that of young people, and it may be that the treatment benefits the eye in the same way it does the skin, since both are formed from the epiblast.

Dr. J. L. THOMPSON, Indianapolis—I wish to speak of one case that I did not send to Dr. Kelly. In 1871 a gentleman came to me with very white-looking cataract in one eye, and when asked if he had ever received any injury, he said he had not. The other eye was perfectly clear. I did not see him for a number of years, when he came in one day for some trifling ailment. I think the removal of a foreign body. About fifteen years ago the second eye became cataractous. He was a drinking man and, in fact, had nearly every vice under the sun. I operated on that eye and did a very beautiful operation, but he had an inflammation, an iridocyclitis, and lost the eye. He was blind then, and wanted to know what I could do for the other eye. I was afraid to touch it, but finally agreed to make a preliminary iridectomy, and lo and behold he could see a little, there being a clear space beyond the periphery of the lens. He complained a year afterward of pain in the eye and had to use eserine, and a month later that lens looked as if it was filled with water. I see that man now occasionally, and you can see the red reflex, but the lens disappeared and the capsule only remains filled with water. Perhaps, if a man could live three or four hundred years, a great many of these cases would cure themselves.

Dr. G. O. RING, Philadelphia—The statement made by Dr. Bates recalls a case in my own experience. A lady in Philadelphia came under my care with well-marked double optic neuritis and vision reduced to almost nothing. There was a well-marked incipient opacity in the lens, very much like the one the Doctor described. In the course of a few weeks a consultation was held with Dr. Norris, my teacher at that time, and I remember that one of his first observations was that the patient had beginning cataract. The case was clearly a specific one. Active treatment was begun at once, and at varying intervals the patient was observed by me until now every particle of the opacity of that one lens has certainly disappeared and her vision is 20/20 in one eye and about 20/30 in the other. That is entirely unique in my experience, and I have never observed any opacity absorbed but that.

Dr. I. R. GRIDLEY CASE, Collinsville, Conn.—About nine years ago two papers published by Dr. Kalish, in the *Medical Record*, on the absorption of immature cataracts fell into my hands. I had plenty of time at my disposal and tried the method after corresponding with Dr. Kalish, so that I might carry out his plan perfectly on a small list of patients. I

recall now four cases where I patiently rubbed the eye from within outward with the ball of the second finger, as directed, for one-half hour daily for weeks. Of these cases, one of traumatic cataract showed not the slightest change. Another, of congenital cataract, undertaken at his earnest request, showed not the slightest change at the time nor several years later. Two other cases of senile cataract resulted as follows: One became more rapidly progressive than I have noticed in other patients of the same age, and the other remained stationary until the time of the patient's death. I now tell my patients with senile cataract, keep your digestion good, use your eyes reasonably, do not worry.

DR. G. E. DE SCHWEINITZ, closing—Opacities in the nasal quadrant are sometimes nearly non-progressive, that is, their progress is certainly very slow. There is another variety that is associated with a corresponding patch of retino-choroiditis that does progress. My only object in bringing up this subject was that we should discuss the best measures for the relief of these patients, and to state my belief, which has been strengthened by the discussion, that there is some reason to believe that we can help these people with proper treatment.

RHEUMATISM AND THE PREVENTION OF HEART COMPLICATIONS.*

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More than fifteen years ago Eichhorst, of Zurich, in the third edition of his "Handbuch der Speciellen Pathologie und Therapie," transferred rheumatism from the class of constitutional to that of infectious diseases. In doing so he was only expressing a conviction that had been forming among clinicians generally. Because of certain superficial resemblances to gout, rheumatism had been classed among diathetic diseases, but without good reason, as time and closer clinical observation showed. Eichhorst's position was not unique, but it is only after fifteen years that the medical profession is coming to acknowledge its correctness. We have at length come to the point of conceding the infectious nature of rheumatism. The reasons given by Eichhorst before any germs had been described as occurring in the lesions of the disease are to-day the best arguments for its infectiousness. Rheumatism has all of the characteristics of an acute infectious fever—the incubation period, the sudden rise of temperature and the remission, with gradual convalescence. It occurs particularly in damp weather, but so does pneumonia, and the dampness seems to stand only in a secondary causal relation to the disease. Even its contagiousness, under certain circumstances, is well established. It has been known to spread through a hospital ward, and to frequently attack several members of a family at the same time. In schools and barracks single cases of it are rarer than the occurrence of several about the same time. According to Eichhorst, Pocock, Schaefer, Jaccoud and von Strümpell, pregnant women have been seen suffering from rheumatism who gave birth to children presenting the symptoms of acute rheumatism.

The infectious nature of the disease is shown by its tendency to produce lesions in the most widely different parts of the body. An acute rheumatic arthritis of the wrist or ankle may be complicated by a rheumatic meningitis, endocarditis, or pleuritis. Autopsies made on patients dead during the acute stage of the disease present striking indications of an infectious disease. Hem-

orrhages into the various organs are noted; there is cloudy swelling of the cells, of the heart, of the kidneys, and of the liver. There is the enlarged spleen of distinctly lessened consistency so characteristic of infectious diseases.

BACTERIOLOGY.

Notwithstanding that rheumatism seems to be an infectious disease, no definite bacterial cause has as yet been established. As long ago as 1883 Babes found bacilli and cocci in the synovial fluid of a patient who died during the course of an acute rheumatism from intercurrent nephritis. Observers have found other micro-organisms in various fluids of rheumatic patients who had succumbed to some complication. All of these were isolated observations until the beginning of the present decade, when Bouchard and Charrin found various forms of staphylococci in six different cases in the synovial fluid of patients suffering from rheumatism. Shortly afterward Achalme found an anaerobic bacillus in the tissues of two cases. A third case of the same kind was noted the next year. Other investigators failed in a number of cases to find the micro-organism described by Achalme, though one or two confirmed his results. Triboulet and Cöyon found a series of micro-organisms in rheumatic patients, occasionally staphylococci, sometimes streptococci, in rare cases Achalme's bacillus, and almost constantly a diplococcus. In eleven consecutive cases of acute articular rheumatism that came under their observation in succession, some of them severe, others comparatively mild, this diplococcus was found. Cultures made from the blood always resulted in the growth of this germ, which they consider the cause of rheumatism. Intravenous injection of this diplococcus into animals always causes endocarditis of the left side of the heart, especially of the mitral valve. German observers, as a rule, have not found micro-organisms in the blood or in the secretions. Singer, it is true, found various micro-organisms in the synovial fluid in the blood and in the urine of patients suffering from rheumatism, but only in a small proportion of cases. His results were not substantiated by Chvostek, who is a careful observer. The blood in all of sixteen cases examined by Chvostek was uniformly sterile; only once was the articular fluid removed from rheumatic joints found to contain bacteria. These proved to be bacilli, but scant in number. Some years ago Leyden and the assistants in his clinic found a diplococcus in rheumatism; Senator found a streptococcus. The only micro-organism which may be considered to have sufficient evidence in its favor to justify its being considered as a frequent cause of rheumatism is the diplococcus form. Even this, however, has not been found often enough to justify any definite conclusion as to its specific pathogenicity.

RHEUMATISM NOT A SIMPLE DISEASE ENTITY.

Several important deductions may be made from the multiplicity of the micro-organisms that have been found by different observers. It is clear, even from clinical observation, that acute articular rheumatism as we know it is not a simple nosological entity, but is probably a series of similar diseases more or less closely related to one another. The term "pneumonia" a quarter of a century ago embraced a number of affections that we can now easily differentiate from each other. The ordinary self-limited acute arthritis, which usually terminates of itself in from ten to fourteen days, is perhaps due to the diplococcus found so often. Cases that run a longer course, and prove intractable, are due to other forms of bacterial life, or are complicated by

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