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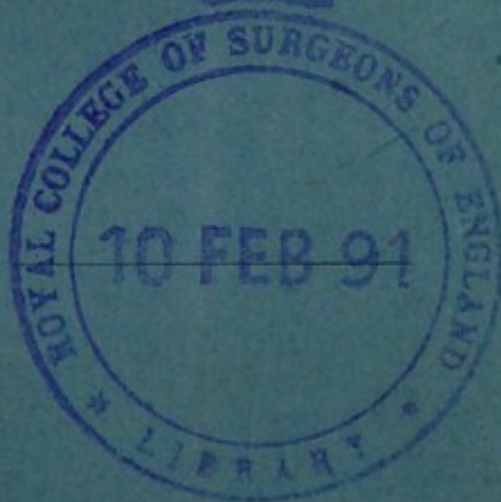
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(2)

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ARTHUR V. MEIGS, M.D.,

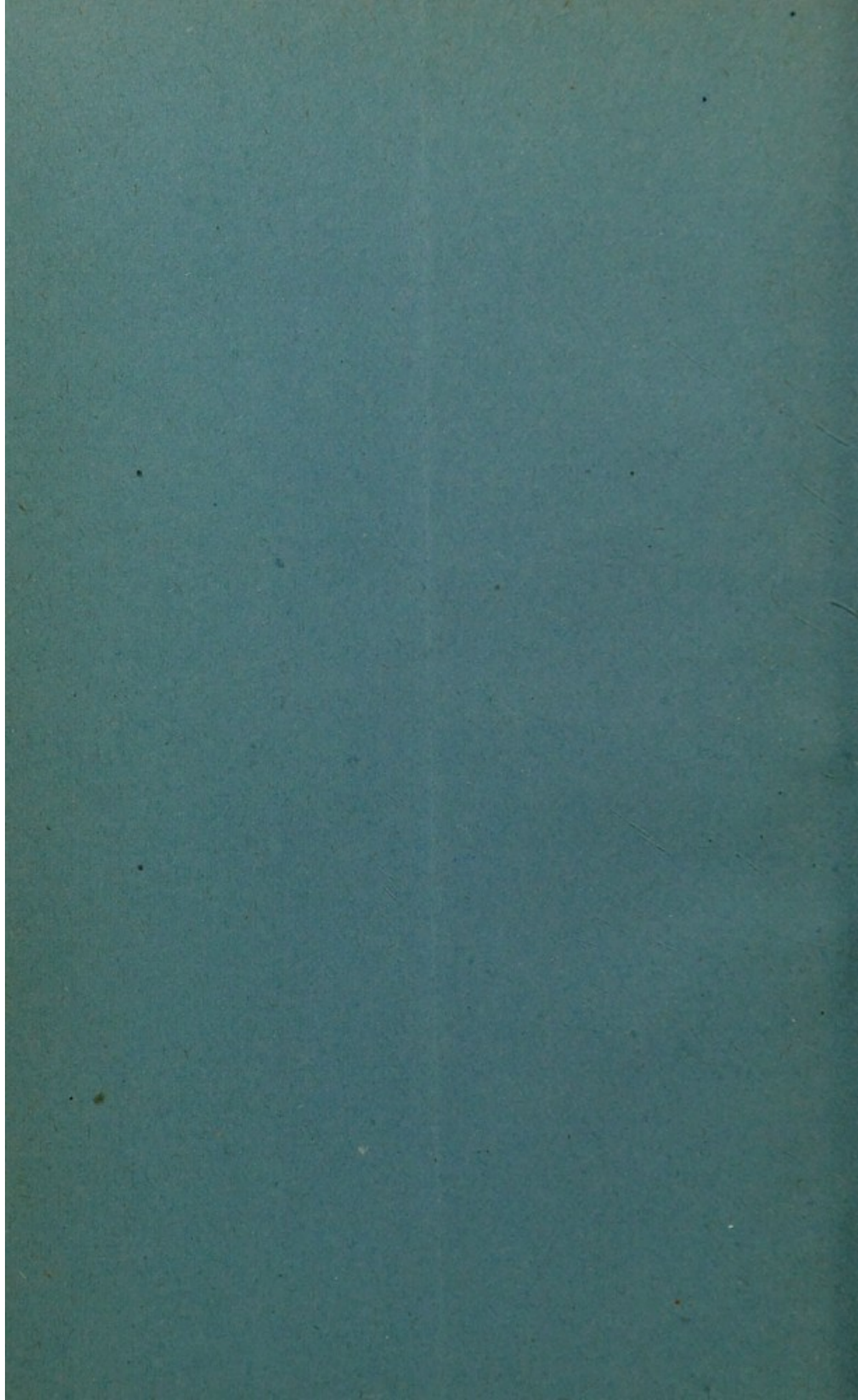
PHYSICIAN TO THE PENNSYLVANIA AND TO THE CHILDREN'S HOSPITALS.



FROM

THE MEDICAL NEWS,

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THE TREATMENT OF SPASMODIC CROUP WITH OPIUM.¹

BY ARTHUR V. MEIGS, M.D.,

PHYSICIAN TO THE PENNSYLVANIA AND TO THE CHILDREN'S HOSPITALS.

By the term spasmodic croup I have meant to designate all forms of the disease characterized by the absence of false membrane, whether supposed to be simply spasmodic, inflammatory, or catarrhal, and my desire is to raise the question of what constitutes proper treatment, for the subject is one upon which my own views are very definite. Though the disease only in the rarest instances endangers life, and from that standpoint is not of much consequence, yet it is so very common and causes so much suffering that by proper treatment can in most instances be so readily prevented or relieved, that it is well worthy of our careful attention and consideration. The method of treatment I have always pursued was for many years used by the late Dr. J. Forsyth Meigs, and is described in Meigs and Pepper on *The Diseases of Children*.

It may be premised, in the first place, that in all severe cases the treatment must be begun by the

¹ Read before the Philadelphia County Medical Society, February 27, 1889.

administration of an emetic, and for this purpose, if it be necessary to have a prompt result, nothing will be found better than a teaspoonful of powdered alum mixed with a teaspoonful of syrup of ipecac. If emesis does not occur in ten, or at the outside fifteen, minutes, the dose may be repeated; the second, however, will not often be necessary. This is much better, if it seems desirable that an immediate result be attained, than any other of the emetics—ipecac alone, sulphate of zinc, or any of the preparations containing antimony. The latter I have always looked upon as unnecessary or even dangerous on account of the severity of their effects, though I confess that my personal experience with them has been of the most limited description. I have heard older members of the profession say that in former days, when it was the custom to administer Coxe's hive syrup or antimonial wine in large doses, and to place children in a warm bath, they had frequently seen them die of the complaint, and anyone who has read the letters of Gui Patin, who lived in the reign of Louis XIV., and at a time when almost a crusade was being preached by the physicians of France against the drug on account of the manner in which it was abused, will realize how much mischief it is capable of doing when injudiciously prescribed. For my own part, I am satisfied that any results to be had by its administration in croup can be obtained better, and much more safely, by other means.

The effects of most emetics in children, it must always be remembered, are sooner over and less severe than in adults, and, therefore, their use is

often proper when it would be inadvisable to give them to older people. When the question is to be answered, in any case of croup, whether or not to give an emetic, the decision is not so important, for its administration can hardly do any injury unless antimony be used. I have seen a young child, within half an hour after emesis, sit up and eat hungrily. Alum and ipecac, given as has been recommended, act with great promptness, have the most marked effect in relaxing the laryngeal spasm, and, contrary to what is very commonly said of their combined use, produce very little physical exhaustion and relaxation afterward.

When summoned to a case the first question the physician must ask himself and decide is, whether the indications are such as call for the administration of an emetic. This question must be answered by considering the matter of dyspnœa—if there be no dyspnœa emetics seem to me entirely unnecessary, nor do I give one if there be merely a hoarse voice and slightly noisy respiration without real difficulty of breathing. It is only when there is decided obstruction of respiration and retraction of the base of the chest and supra-sternal fossa that emesis is to be at once induced.

If it be decided that an emetic is unnecessary, then something else must be done. It is to be understood that I am now discussing the treatment just as I should if I had been called in in the middle or early part of the night probably, to see a child that had been seized, without previous warning, with a paroxysm of the disease. Having decided that the

symptoms were not sufficiently urgent to make the administration of an emetic necessary I should order a dose of laudanum and ipecac, and at the same time give directions for a second dose if the first did not in the course of an hour produce a marked calming effect. By the judicious use of an opiate with ipecac if the case be not so severe as to demand the immediate and somewhat more violent action of an emetic, in my experience the spasm of croup can be better combated than by any other means I have ever tried, and when once a physician and judicious mother have combinedly learned to manage spasmodic croup in this way the disease, except when it occurs in its most violent forms, loses almost all its terrors in a household. Absolute perfection, of course, is not to be attained; and this holds true of our power of judgment of the precise dose of medicine to be given in any particular case of disease. But what is to be aimed at in croup is to give such an amount of laudanum as will produce a moderate but decided soporific effect without narcosis, and ipecac to relax spasm but not nauseate, and especially not to induce emesis. This end would be attained in adults ordinarily by giving about twenty drops of laudanum with fifteen of syrup of ipecac, with directions that a second dose to consist of ten to fifteen drops of laudanum with ten or fifteen of ipecac syrup be given after an hour, or later during the night if it should seem necessary. In children, of course, and it is only in children, practically speaking, that we ever meet the disease, the dose must be made less according to the age. I mention

the doses which would be proper for adults merely as illustrating the therapeutic effect that it is my aim to attain, for the amounts of laudanum mentioned could with perfect propriety and safety be given to most adults.

In using this method of treatment of croup it is, of course, a great advantage both to the physician and patient, if the physician already knows from previous experience with the child, the exact quantity of laudanum and ipecac he will have to take to effect the purpose. In administering laudanum to any child that has never previously taken it, no one should ever do otherwise than begin with a minimum dose, and this too at the risk of failing to thoroughly produce an effect, because the event will prove the dose to have been too small for the particular individual. For a child two years old, the initial dose should not be more than two drops of laudanum with ten of ipecac syrup; this to be repeated after an hour, or any time later if necessary. By waiting an hour, a second dose can always, in my experience, be given with entire safety, for if the first has produced no decided effect in that length of time, the second will not produce too much. For an infant of two to six months the first dose, to keep properly within the line of safety, should be half a drop with five or six of ipecac syrup, this to be repeated in an hour if the first be insufficient. In older children the dose must be proportionally larger, and the precise amount to be given is very much a matter of individual judgment, for it is difficult to formulate a

precise rule which can be held to rigidly at the moment of emergency.

It is a good plan often, when the case is a severe one, and an emetic has been judged necessary, after its action to wait half an hour, and then give one or two doses of laudanum without ipecac, to induce sleep and relax spasm. This seems often to prevent the recurrence of the attack toward morning, which is likely to take place if the emetic alone be relied upon.

The first night having thus been tided over, a moderate amount of opiate under all ordinary circumstances having been used, and an emetic given if needed, it becomes a question what is to be done next. Is the disease cured, and no further medication required, or does the condition of the child require further attention? Although in the majority of cases of spasmodic croup, by the time morning comes the child will have lost his hoarseness and fever, and will seem often as well as if nothing at all had happened, playing about cheerfully during most of the day if allowed, the disease generally, if left without treatment, returns a second, and even a third night, and the condition of the patient will often be more threatening with the return than it was at the onset. Here then certainly is an opportunity which promises much for preventive medicine, the branch of therapeutics which it is generally thought will effect the best that can ever be done by the science of medicine.

Knowing that the trouble is likely to return, the child should be kept in bed the following day, and

given every two hours minute doses of paregoric and ipecac, to which nitre may be added if there be fever. The doses should be so small as to be very gently relaxing, but the amount of opiate too little to induce any sleepiness, and that of ipecac to take away appetite, much less produce any nausea. This result will be most nearly attained in children between two and five years of age by the use of from five to ten drops of paregoric, and about five of ipecac syrup. As much as ten drops of the ipecac, and it is an amount I have very commonly seen given, is sufficient, when administered every two hours, to nauseate many children, and then the remedy becomes worse than the very disease itself, for nothing is so depressing to the general strength and vitality, and natural powers of resistance to disease, as long-continued nausea.

The child having, as already recommended, been kept in bed during the day, when the second night comes laudanum and ipecac should again be given at bedtime, with directions for a second dose if it seems necessary. To say bedtime is, perhaps, not so precise as is to be desired, but the proper time for the first dose is between six and nine in the evening, when the child is tucked in bed to sleep for the night. The doses should be such as already mentioned, unless it be judged that those given the night before were too small, in which case the amount may be increased to such an extent as seems advisable, the previous night's experience having given us a guide to the child's susceptibility to the drugs. During the second day also, the child should

almost always be kept in bed, and the minute doses of paregoric and ipecac continued every two hours, and the laudanum with ipecac at bedtime again administered. After the third night, unless the case be one of unusual severity, the cough will become loose, and when this is the case there is no longer any likelihood of a return of spasm. In my own experience it has seldom happened, and then only in cases of great severity, that I have found it necessary to administer an emetic after the first night, though I am sure that if cases be left without treatment, the spasmodic symptoms are apt to be more violent the second or third nights than they were the first. Knowing that the trouble is likely to return, and having learned something of the individual child's susceptibility to opium and ipecac, it is much easier to prescribe, both with safety and confidence in ourselves, such a dose as will prevent the return of violent spasm, and this, it should be thoroughly understood, does not require the administration of any large dose of laudanum. As already stated, the effort should be to give such a dose as will produce an effect parallel to that of twenty drops of laudanum upon an average adult, and it is always both safer and better to err upon the side of giving too little than too much. One difficulty that very commonly has to be met, is that on the day following an attack, if the child be at all feverish, the appetite will generally be very poor, or abolished, and this will naturally be attributed by anxious mothers to the medicine that was given; but if it be explained that it is due to the cold and the

accompanying fever, there will usually be no trouble in having the treatment continued.

The treatment of the disease after the spasmodic symptoms have passed off it is not necessary for me here to discuss, for it must be that of coryza, or bronchitis, or both, according as the inflammatory process which had its origin in the larynx travels upward or downward, or in both directions, for it is sufficiently well known that an attack of spasmodic croup is almost always followed by, or perhaps more properly is, the first symptom of a cold of some sort.

It will not be amiss for me now to give a few quotations to show that I am not alone in the opinion expressed in regard both to the great value of opium in children's diseases and its entire safety when properly used.

In Meigs and Pepper on *The Diseases of Children*, as I have already said, opium is highly recommended as most valuable in cases of spasmodic laryngitis.

The following quotation is taken from West on *The Diseases of Children*, page 31 :

"A third great remedy in the diseases of early life is *opium* in its various preparations; and with it may be classed, though separated by a wide interval, other sedatives. . . . Perhaps no remedies are so often needed in the diseases of early life as sedatives, for at no other age is the nervous system so easily disturbed. At the same time, the susceptibility to the action of narcotics and sedatives is so remarkable, and the evils which result from their unnecessary employment, or from their administration in excessive doses, are so serious, that some practitioners altogether abstain from their use. To do so, however, is to deprive ourselves of one of the most important classes of remedies, and of one for which no substitute can be devised."

Goodhart, on *The Diseases of Children* (edited by Starr), page 25, expresses the view that the dangers of the administration of opium to children are overestimated, but says that the initial dose should always be a small one.

Eustace Smith, in his book on *Disease in Children*, page 19, says :

“Opium, it is well known, should be given with caution. The remedy is, however, of extreme value, and if care be taken to begin with only a small quantity, and to postpone a second dose until the effect of the first has been ascertained, no ill effects can possibly be produced by the narcotic.”

Again, in his *Clinical Studies of Disease in Children*, the same author, in speaking of the use of the drug, at page 18, says :

“It is, however, a medicine which is of especial value in the treatment of the diseases of infancy, and may be given without fear if care be taken not to repeat the dose too frequently.”

Having now described the method of treatment which in my hands has proved so efficacious, and up to the present time so free from danger, and by the above quotations having shown that some of the most highly considered and widely quoted authorities are of the same opinion in regard to the use of opium that I have myself expressed, I have only two things to add :

First, my opinion that an unusual susceptibility to the influence of the drug in children is not common, no more so than it is in adults, among whom, when it exists, it is called an idiosyncrasy, so rare is it. The reason that the use of the drug has had a

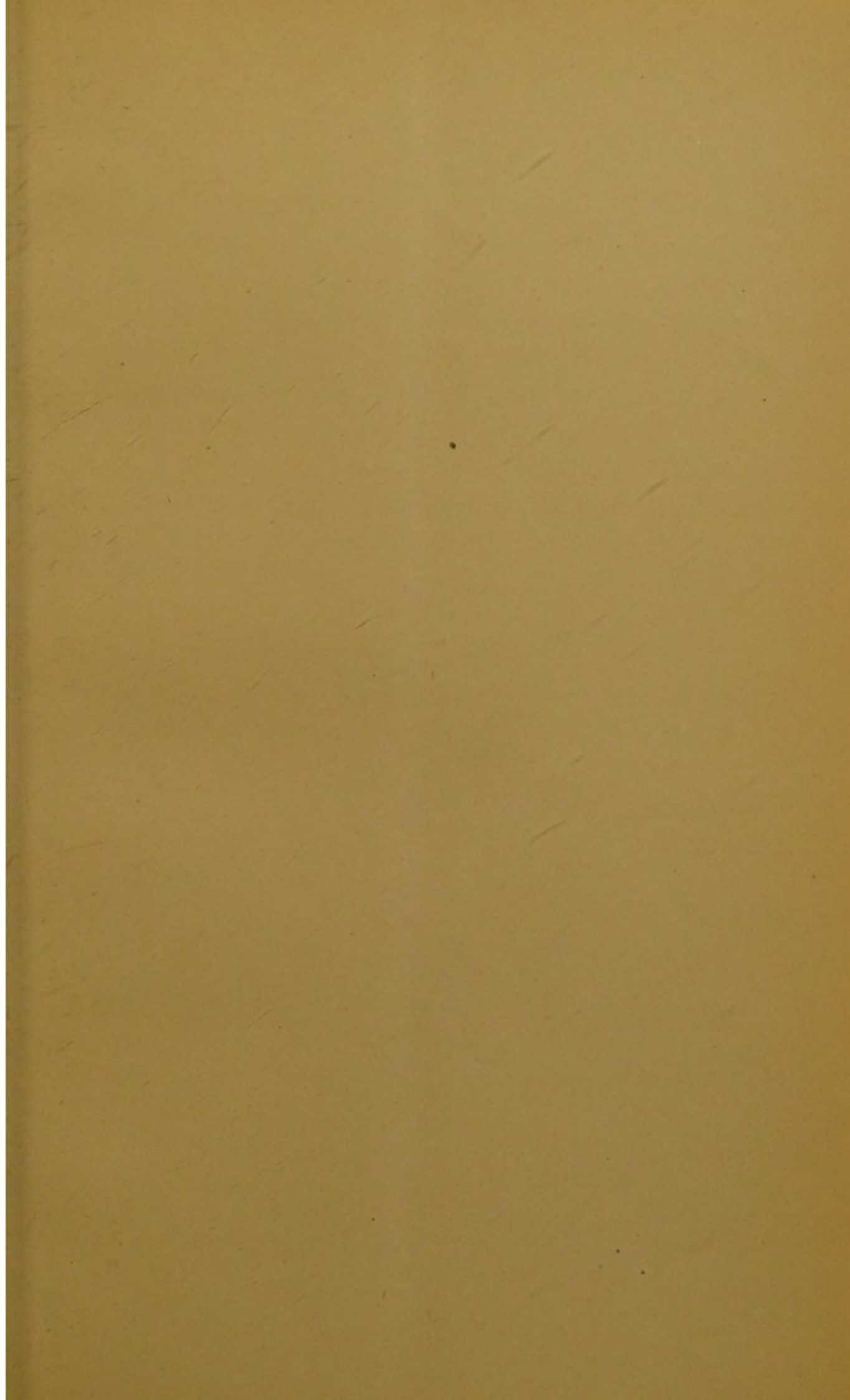
bad name among physicians is because the initial dose given has so often been too great and not because the idiosyncrasy is common. The truth of this statement is borne out by the fact that so many of the authorities upon questions of diseases of children, and presumably the acknowledged authorities, are those who have had the largest experience and are, therefore, best qualified to judge, recommend the administration of opium as both valuable and safe. Most important of all, perhaps, for us to remember in coming to a decision whether or not we shall deny ourselves the use of the drug in treating the diseases of childhood, is the fact that even in those rare instances in which the idiosyncrasy does exist it is almost impossible, if the initial dose given be a sufficiently small one, that it should cause death. The usual result is that the child is slightly narcotized—made to sleep somewhat heavily—and the parents and physician are frightened lest worse should come of it. Shall we on this account deny our patients the many advantages to be derived from the administration of a drug the use of which will only be dangerous owing to our own lack of care?

Finally, it is quite incomprehensible to me why the use of opium should be decried when children, even the youngest, are freely given many other drugs which are confessedly much more dangerous, and the effects of which it is much more difficult to observe and control—as, for instance, chloral, aconite, antimony, arsenic, and belladonna. The last mentioned of these, belladonna, is a drug of which common report says children can take much

larger doses relatively than adults, and yet it is the only one with which, up to the present time, I have ever in my own practice had any untoward effects among children. Some years ago I prescribed a cough medicine containing alum and half a drop of tincture of belladonna to the dose for two children aged respectively about three and five years. Two or three doses of this medicine were to be given an hour or more apart; the first when they went to bed and the others afterward if they did not sleep. In the middle of the night I was summoned to the house, to find that two doses had been given to each child, and that the *younger* was in a sound sleep, more quiet and natural than she had enjoyed for many nights owing to the troublesome cough that had existed, while the *older* child was sitting up in bed wide-awake, with the pupils somewhat dilated, and the chest covered with a red rash. After watching the case for a time, I assured the mother that no harm would come of it, and the next day the child was as well as ever. This certainly was a marked instance of idiosyncrasy, for in the younger child the therapeutic effect was exactly what had been sought for, while in the older I had to deal with a mild case of belladonna poisoning. It was also a marked instance of what generally happens, if perchance a properly small dose of any powerful drug is given to a person who proves unusually susceptible to its influence, and it is that the effects are much greater than was desired, but in nowise dangerous and hardly very alarming.

It is unlikely that by my imperfect exposition of

my views upon this subject I shall have persuaded anyone whose mind was already made up to the contrary, to come over to my side of the question, though it may be perhaps that those already of my opinion or in doubt about the matter, will be strengthened to pursue the method of treatment more boldly, or to try it. It is certain, however, that discussion of a subject has its good effects by causing opinion to crystallize more and more in the direction of the truth, and in this manner, at least, I trust my efforts will not have been entirely in vain.



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