sibly, the physiological one, which at least is inconvenient.

It is to be regretted that we are not in possession of facts showing the physiological differences in quality and intensity of the several alkaloids which are dispensed under the common name of aconitia, since, liable as he is to get any one of several different extremely active substances, without knowing which it may be, or whether it be a mixture of them, the physician cannot but be extremely liable to disappointment or alarm at the uncertainty of his results. It is at present best to prescribe the crystalline alkaloid in small doses, rather than larger doses of the others, which are of uncertain strength.

RESORCIN.

The increasing use of antiseptics in surgery within the last few years has brought to the notice of physicians many compounds, new and old, possessing the property of destroying the different plants concerned in putrefactive changes, and consequently stopping or preventing those processes; and as none of those in use are perfect and free from disadvantages, others will still be offered.

Carbolic acid, the oldest, of course stands first, and is in universal demand. Its disadvantages are its odor, which is offensive to many, its occasionally irritating character, and its serious poisonous effects when absorbed.

Thymol is occasionally used¹ and is very good. Menthol and many others are equally reliable, but no better than thymol.

Dr. Justus Andeer, of Wurtzburg, has just written a pamphlet upon Resorcin, as applied to medicinal uses, and recent numbers of *New Remedies* contain a long abstract of it.

It is a colorless, crystalline substance, of a sweetish and harsh taste, soluble in something more than its own weight of water, also soluble in ether and alcohol. It was first obtained in 1864, by fusing galbanum resin with potash, the result being about six per cent. It has since been made from other resins and in other ways.

Dr. Andeer found that a one per cent. solution prevented the decomposition of urine for months, and also destroyed the organic causes of putrefaction; it preserved pancreas and blood perfectly, retaining even their natural odors. Wounds treated by it healed by first intention, and those poisoned by septic material yielded to it as completely as to carbolic acid. Applied dry to the skin it is not absorbed, and is not irritating; hypodermically a two per cent. solution may produce painful cramps and twitchings, but never abscess. On the moist lips it will raise a white blister. Used with the atomizer it is entirely unirritating to either eyes or lungs, and nearly free from odor. Applied to granulations the crystals are a painless and mild caustic.

Dr. Andeer also recommends its internal use in diphtheria and other diseases, and as injections in leucorrhœa, etc. The dose is one gram to two in water, syrups, glycerine, etc.

— At Bellevue and the University Medical Schools the winter term of lectures closed the 1st of March, but at the College of Physicians and Surgeons the course will be extended until the 1st of May, the spring term having been abolished in this institution.

¹ See JOURNAL, volume cii. page 516.

Hospital Practice and Clinical Memoranda.

JUGLANS NIGRA, A REMEDY FOR DIPHTHERIA.

REPORT OF CASES.

BY C. R. S. CURTIS, M. D.,

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IN view of the fact that the mortality from diphtheria throughout our country, and especially in the Eastern States, has been very great for a number of years, notwithstanding the best efforts of the most scientific and successful practitioners, and in the hope that this communication may aid the profession to some extent in their efforts to cure this direful plague, I have been induced to contribute to your journal a short account of the results of some experiments recently made by me with a new remedy (at least a remedy that I have never yet seen recommended in any medical work or pamphlet for diphtheria).

I will premise by saying that in the treatment of this disease I had, previously to July, 1880, adopted about the following plan, with such modifications and changes as the individual peculiarities or the progress of the case might from time to time seem to indicate. Internally quinine and iron in liberal doses, preceded in most cases by a mild mercurial cathartic, also an occasional dose of chlorate of potash, and often, when the symptoms demanded it, I administered an expectorant mixture; the patients at the same time being sustained by milk, beef tea, egg-nog, and other nutritious diet.

Locally, I was in the habit of applying freely over the neck, throat, and parotid glands equal parts of tincture iodine and tincture camphor. The throat was gargled alternately with Ingals' solution of iodine, solution of chlorate of potash, and solution of acetate of lead in dilute acetic acid or with alum in the same, as advised by Trousseau, and the mouth and throat were sprayed frequently with diluted sulphurous acid. This method, I presume, did not differ materially from the general plan of treating diphtheria by many of the best practitioners in this country.

My success was certainly as satisfactory as that in cases generally reported. I could record the recovery of quite a large percentage and number of my cases. Still my treatment did not always succeed, and therefore I felt justified in cautiously trying new remedies where there was a reasonable hope of their proving useful.

About the 1st of last July, while reading Nélaton's *Éléments de Pathologie Chirurgicale*, I came across the following passage in volume i., page 339, in regard to the treatment of pustule maligne. It is to be presumed that the walnut leaves alluded to by Nélaton were those of the *Juglans regia* and not the *Juglans nigra*. But the properties of the various species are said to be much the same. M. Nélaton remarks:—

"En 1853 un praticien de Perpignan, M. Pomagral, annonçait dans les Annales de Montpellier qu'il guérissait la pustule maligne par l'application de feuilles ou d'écorce de noyer fraîche. M. Raphaël (de Provins) institua cette medication dans un cas de pustule maligne où il était impossible, à cause du siège et de l'étendue du mal de pratiquer la cautérisation. Le malade guérit. Encouragé par ce succès, le même

moyen fut conseillé dans deux cas où les symptômes ne pouvaient laisser de doute sur la nature de la maladie; le succès ne s'est pas démenti. Voici ce qui se passe sans l'influence de ce topique; l'œdème disparaît très rapidement, les téguments recouverts par les pustules laissent suinter une grande quantité de sérosité, bientôt la pustule s'affaisse, et la maladie se trouve réduite à une plaie gangréneuse qui s'élimine par l'inflammation des tissus qui la circonscrivent, etc.¹

This suggestion made quite an impression on my mind at the time on account of its extreme simplicity, yet as it in reality was not more simple than the discovery of the potency of cinchona bark in the treatment of malarial diseases, and as it was deemed worthy of notice by so distinguished a surgeon as Nélaton, I believed it deserving of serious consideration.

Happening, a short time afterwards, to have a bad case of diphtheria on hand, in a boy about seventeen years of age that was not improving under the usual plan of treatment, it occurred to me that these same leaves of walnut, that had been found beneficial in the treatment of malignant pustule in France, might prove of some service in the treatment of diphtheria, and certainly a trial of them could do no harm. Accordingly, on my next visit, not being supplied with *juglans regia*, I ordered the parents to obtain a good supply of the leaves of the black walnut (*juglans nigra*), and to make a strong decoction of them, and use it as a gargle in their son's case, alternating with the other washes and local remedies. This was done. On my visit the next morning I was agreeably surprised to find my patient much improved. The treatment was continued, and at the end of about a week he was well enough to dismiss. How far his recovery was due to the use of the decoction of walnut leaves was a matter of great doubt, and I thought little more about it for some time.

A few weeks afterwards I was called to treat a case of diphtheria a short distance in the country. The patient was a girl about eleven years of age. The symptoms at first were somewhat obscure, as they had been preceded for several weeks by a persistent catarrh. About the second day of my attendance, however, the peculiar diphtheritic membrane became manifest on the tonsils and palate, accompanied by the other symptoms of this most distressing disease. The usual remedies were resorted to until the morning of the third day without any perceptible improvement. The patient, in fact, seeming to be worse from day to day, I then bethought me of my apparent success with the decoction of walnut leaves in the previous case, and ordered the parents to procure and use them in the same manner. I was again agreeably surprised the next day to find my patient better. The treatment was persisted in, and by the end of ten days her convalescence had progressed so far that she no longer required my attendance. During the progress of this case an older sister was taken with diphtheria in its initial form, complaining of pains and difficulty in swallowing, and on examination the peculiar ash-colored deposit was observed on the tonsils. My usual treatment was at once adopted, and in addition the decoction of walnut leaves was ordered to be used freely, and as there was considerable thickening and

œdema of the neck and parotid glands I ordered a poultice to be applied, of the walnut leaves, over the neck and glands. Our success in this case was even more signal than in either of the previous ones, and in a few days she was apparently as well as ever. The ash-colored spots had disappeared. The œdema was gone. The feeling of malaise and all signs of fever had subsided.

One of the greatest difficulties heretofore encountered by physicians in the local treatment of diphtheria has been the painful and distasteful qualities of the local applications. I found, after once trying the decoction of walnut leaves, even when made stronger by the addition of the hulls of the green walnuts, my patients were willing to continue its use, and made no complaint either of the decoction being painful or of its having an especially disagreeable taste, and nurses found little difficulty in swabbing out the throats of young children with it.

After the above related experience I felt more confidence in it as a remedy, and resolved to use it in all my cases. I have now tried it on about thirty patients, gradually depending more and more on the decoction as a local remedy and less on other local applications. I have used it as a gargle, as a poultice, in the form of spray with the steam atomizer, and in children too young to use it as a gargle I have directed the nurses to swab out the throat frequently with the strong decoction. In the worst cases I have added at times portions of the green walnut hulls to the leaves, in order to make the decoction still stronger, with apparently good results; and in one or two instances the remedy has been administered internally with seeming advantage. Since beginning this treatment I have used it in all my cases of diphtheria, amounting to about thirty, and *all have recovered*. I cannot but feel that such satisfactory results must be in a great measure due to the free use of the decoction of walnut leaves. While I do not regard the evidence I am able to furnish as conclusive by any means, I believe it to be so encouraging as to render it my duty to make it known to the profession. In all of the worst cases this treatment has been supplemented by the use of iodine locally, both externally and internally, and by the general tonic course previously mentioned. In the milder cases that I have had to treat recently, especially when called to see the patient early, I have depended on the walnut decoction alone. But whenever a case has seemed severe, or has already considerably advanced, I have also used the iodine locally, a remedy in which I have always had great confidence in the treatment of diphtheria, and which, until the curative powers of the walnut can be more firmly established by a much more extensive experience than I have been able to give it, I could not conscientiously discard.

I believe the experience above related warrants a careful and thorough trial by the profession at large. Many of my cases were bad. In the neighborhood of some of them children were dying of diphtheria under the care and treatment of skillful physicians. In the immediate neighborhood of one of my patients, a girl about ten years old, three children died in one family, and several others near by died, all being treated by good physicians, so that it can hardly be argued that these thirty cases were all favorable, and would have probably recovered under almost any of the usual plans of treatment. Some of the cases, it is true, were mild (at least under the treatment instituted at an early day

¹ The supposed curative qualities of the *juglans regia* in the treatment of malignant pustule are alluded to in the United States Dispensatory (thirteenth and fourteenth edition), but so briefly as scarcely to attract attention.

they never became severe), and the symptoms of malignant diphtheria never developed themselves.

I trust the report above made will be found sufficiently encouraging to induce the profession to give the remedy a cautious but thorough trial, and that my hopes and confidence in it may not be disappointed.

THREE CASES OF DIPHTHERIA TREATED WITH PILOCARPIN.

BY F. W. VOGEL, M. D.

CASE I. Wilbur S., aged six years ten months, taken ill January 22d. The physician who was called pronounced the disease diphtheria and declined to treat on the plea that he had lost three cases the same week. A homœopath took charge for two days, and patient becoming rapidly worse another physician was called, who prescribed chlorate of potash. Patient "becoming choked" I was sent for.

Status præsens: January 25th, 2.30 P. M. Small, ill-ventilated room, patient anæmic, ill-nourished (has always been troubled with a cough). Sits upright in bed; breathing hurried (to 44); eyes staring; constant croupy cough; aphonia; pulse 128, fairly strong; temperature 102.2° F.; retraction of supraclavicular spaces and of lower ribs during inspiration. Dyspnœa has commenced early last night; ten suffocatory attacks since then. Inspection of fauces reveals nothing beyond a little redness and loaded state of tongue. Father says the doctors saw white patches and that these disappeared after a few swabbings with tincture chloride of iron. Submaxillary glands not tumefied, but subhyoid glands hard and painful. Ordered, according to Guttman,¹ pilocarp. mur. 0.03, ac. hydrochl. gtt. ii., pepsin sacch. 1.25, aqu. 80.00. S. One teaspoonful every hour, followed by one half teaspoonful of brandy with water, night and day, milk every second hour. A hot compress to the throat every eighth hour. If patient should get worse to double the dose of medicine and wine. Any membranes that might come up to be put into a ten per cent. solution of carbolic acid.

January 26th, nine A. M. Through misunderstanding patient had taken the mixture only every second hour; had had four suffocatory attacks up to midnight, when he coughed up a tubular membrane, forming a complete cast of larynx and trachea down to bifurcation, being over seven centimeters long, very tough and compact at the upper end, where it measured more than one millimeter in thickness, and loose and shreddy in its lower portion. Patient then became quiet and slept in recumbent position during the remainder of the night. He looks a little brighter, voice audible but hoarse, respiration 24, extensive large tracheal râles, pulse 132, temperature 100.5° F., takes nourishment well. Ordered mixture, brandy, and nourishment every hour.

January 26th, six P. M. Passed the day pretty well, had four attacks of orthopnœa, during the last one, about noon, he coughed up a tape-like membrane about three and a half centimeters long and one half wide, which almost choked him, the father pulling it out of his mouth with his finger. Pulse 140, rather weak; no perceptible salivation. Finding the brandy to be largely adulterated with water I ordered a better quality, to continue mixture and brandy every hour.

¹ Berl. Klin. Wochenschrift, 1880, volume 40, page 571.

January 27th, ten A. M. Passed a fair night; three attacks of orthopnœa, during last of which he expectorated another tape-like membrane of the same size as the first one, but looser in texture. Pulse 128, rather small; respiration 24, accompanied by large, loose râles; salivation; he spit out a good deal of muco-pus. Eight P. M. About noon he coughed up another tape-like membrane about five centimeters long, loose and shreddy. Parents were astonished at the ease with which he expectorated it. Pulse 128; temperature 98.4° F.; voice stronger; hoarse; large râles extending over part of back. Takes nourishment quite well.

January 28th, nine A. M. Expectored with ease another tape-like membrane about four centimeters long, same state otherwise, pulse 120, temperature 99.0° F.

January 29th. No more membranes were brought up, but considerable muco-pus; sleeps now in recumbent position; orthopnœa did not return; pulse 116, stronger; temperature 97° F. To discontinue pilocarpin. One teaspoonful of beef, wine, and iron every third hour; milk or beef-tea and one dessertspoonful of port wine every second hour.

January 30th. No membranes, loud râles, no more orthopnœa, expectorates much muco-pus, pulse 112. Becomes hungry and asks for baked beans; father gives him mashed potato against my wishes.

January 31st. During the night the fire, which had been kept up day and night, went out, it being one of the coldest days of the season. I find the room chilled, patient lying on back, pulse 112, respiration 24, large râles, no change for the worse apparently.

February 1st. I am sent for in haste at seven A. M. Patient has passed a very bad night, orthopnœa, constant restlessness, head bathed in sweat, cyanosis, respiration 42 to 48, pulse rapid, irregular, compressible; wants to be carried and rocked all the time, voice quite strong, hoarse, refuses food and stimulants, tongue dry in centre. Subcrepitant râles over base of both lungs mingled with large moist râles. Mustard to chest. Pilocarpin 0.03 : 80.00, one dessertspoonful every hour, one teaspoonful of port wine every half hour. No change at night. Examination of urine shows considerable albumen. Pulse growing feebler. To discontinue pilocarpin and give stimulants every half hour.

February 2d, eight A. M. Very restless night, jactitation, cyanosis has increased, wants to be carried and rocked hard, voice quite strong, pulse not countable, subcrepitant râles over considerable portion of chest. At ten A. M., whilst rocking in his father's lap, he suddenly stretched himself out and expired.

CASE II. Ernest S., aged three years and two months, brother of former, sick for two days, but not taken notice of. In the night from 2d to 3d he became very drowsy, vomited, moaned all night.

February 3d, eight A. M. Drowsy, pulse 144, feeble, face congested, sanious discharge from both nostrils, left nostrils, excoriated. Fauces inflamed, but no exudation, which shows only in the back of the pharynx and tonsils when everted during depression of tongue; there is pain in the left ear, which causes the constant moaning; submaxillary glands enlarged on both sides, especially on right. Put on pilocarpin 0.02 : 80, teaspoonful every hour followed by one teaspoonful of port wine; milk, and compress, as in Case I. Eight P. M., exudation has not spread, changed to a dark gray and curls up at edges, tongue very moist but no salivation, pain in ear has subsided, glands very perceptibly reduced in size, pulse 128, takes milk very well.