

seemed better to make the far point 36 inches, it being found that the right eye, somewhat imperfect from the previous injury above mentioned, read more easily with the cylindrical $-\frac{1}{30}^c$ alone than with the glass for distance.

For the left eye the glass to make the far point 36 inches would be concave spherical 14 in combination with concave cylindrical 30, or, as shortly written, $-\frac{1}{14}^s \subset -\frac{1}{30}^c$; but as through this the letters appeared too small, a weaker spherical, 16, was adopted instead of the 14.

After selecting the glasses it remains to have them carefully set; a matter of considerable nicety, the cylindrical axes requiring to be properly directed, and the eyes to look nearly perpendicular through the centres of the glasses.

In the above case we found the weakest meridian to be myopic, and in consequence knew the strongest to be more myopic. If in any case we could determine the strongest meridian to be hypermetropic, the weakest would be more hypermetropic, and with this knowledge we could proceed in a manner analogous to that described in the case reported, using convex glasses instead of concave, and in the determination of the refraction of the strongest meridian by means of a slit and convex glass, giving the preference to the strongest convex with which the best vision in the distance could be obtained.

CASES OF CROUP.

[Read before the Boston Society for Medical Observation, December 17th, 1866, and communicated for the Boston Medical and Surgical Journal.]

By CHARLES D. HOMANS, M.D., of Boston.

CASE I.—F. S., aged 5 years, was brought to the City Hospital, Sept. 19th, at about 11 o'clock, A.M. She had been hoarse the day before, had coughed somewhat, and complained of soreness of the chest. She had been seen by Dr. J. G. Blake, on the 18th, who did not then regard her as very sick, and found no membrane in the fauces. Two other children of the same family, living in a damp, badly ventilated lodging at the South End, have died of the same disease.

On entrance, she was blue in the face, gasping for breath, entirely unable to speak; death seemed imminent; the soft palate and uvula, with the tonsils, were covered with a soft, dirty-white exudation. She was etherized and tracheotomy immediately performed, the tube being inserted about two inches above the sternum; a small piece of grayish false membrane was pulled from the trachea through the wound at this time. Very shortly after the operation her countenance recovered its color and respiration became less labored. She was placed in a room filled with steam, and soon went to sleep. At 12½, P.M., her pulse was 144, strong; respirations 34, easy; at 2,

P.M., pulse 156, at 4, P.M., 138, and continued at about that rate all night. She slept for about two hours, having taken seventy drops of tincture of hops. During the afternoon, she took egg-nog at short intervals, about one drachm at a time, and in the evening beef-tea was taken with avidity; thirst was very great. Tube cleansed at midnight.

Sept. 20th.—At 2, A.M., she had a momentary spasm of the muscles of the limbs; at 6, she seemed hot and restless, and the beef-tea and stimulants were omitted. At 7½, quiet; pulse 126, firm; respiration easy. The pulse was steady at 125–130 during the day; she slept considerably; general appearance better, though the skin is rather dusky. She drank one half pint of milk during the day, water *ad libitum*, and took nothing else. The air was kept exceedingly warm and moist by means of a faucet in the steam-pipe by which the room was heated. Tube cleaned four times. Her tongue was clean at the edges, but covered in centre and back with a thick, whitish brown fur; respiration rude all over chest, with many coarse râles.

21st.—Complexion dusky. Slept from three to four hours in the night. Pulse 130, good. Takes milk, beef-tea and egg-nog.

22d.—Slept well. Pulse 120, not very strong. Can force air through the mouth when the tube is corked, but cannot inspire.

24th.—Countenance still dusky. Has coughed up through tube several times a thin creamy fluid. Pulse rather feeble. *R.* Syr. ferri iodid., gtt. x., three times daily.

26th.—Coating of fauces clearing off. Pulse 130.

27th.—Creamy discharge increased; it comes through and around the tube. Countenance bluish.

Oct. 2d.—Still unable to inspire through mouth and nose, but can force air out through glottis with difficulty.

4th.—Countenance somewhat less dusky; discharge from tube less.

8th.—Was able yesterday, for the first time, to breathe by the mouth and to speak, though very hoarse. The inner tube has been removed and the outer left in, but corked, the air passing through openings made for the purpose. From this time she slowly improved, gradually gaining strength and losing the dusky hue of her skin. The hoarseness continued in some degree as long as she remained in the hospital. Oct. 15th, the tube was removed from the trachea, and the opening closed very quickly. Nov. 1st, the use of steam was given up, and on the 17th she was discharged, well.

CASE II.—J. S., æt. 6½ years, sister of the preceding, was brought to the City Hospital in the morning of Sept. 22d, having had a cough, with hoarseness, since the 16th inst. There was a white fibrinous exudation on the back of the fauces and on the tonsils, her tongue was covered with a smooth, white coat, her appetite poor, her countenance natural, but with an anæmic look. Her bowels were regular; pulse 105, good; respiration easy, but noisy; cough croupy, not

very hard, but with three or four paroxysms daily. Her voice was quite indistinct, and at evening nearly gone. She was placed in the same room with her sister, under the influence of steam, and had the same diet—beef-tea, milk and egg-nog. In the evening the pulse was 120, not strong; the respiratory murmur was audible all over the chest; there were sonorous and mucous râles everywhere, but principally in left back. This state of things continued for four or five days. On the 24th, ten drops of the syrup of iodide of iron were ordered her three times a day; and, on the 26th, the membrane had disappeared from her throat, and she appeared generally better. Her voice returned on the 28th, though very hoarse. Oct. 2d, she had much improved in every way, though still quite hoarse. She was moved to the large female ward with her sister on the 1st of November, and was discharged well, Nov. 17th, her voice being nearly natural.

CASE III.—S. M., æt. 8 years, was brought to the City Hospital at 7½, P.M., Oct. 2d. Had been sick a week with symptoms of croup, and had suffered from excessive dyspnoea for thirty-six hours previous to entrance. Her pulse was about 130, dyspnoea extreme, countenance livid, skin cool, and she was unconscious. The trachea was immediately opened, the operation occupying but a few minutes, but during that time the respiration had ceased, the face became very livid, and the pulse scarcely perceptible. Air was blown in and sucked out of the lungs by means of a catheter in the wound, and the tube inserted as soon as possible, respiration soon becoming regular and easy. She was removed at once to the steam room. Fifteen minutes after the operation her pulse was 120, but it grew more rapid afterwards, and in two hours was 162; respirations 48; her consciousness, however, had returned, and she was able to sit up and swallow water. Milk-punch and beef-tea were directed for her to drink, or to be given by enema if necessary; also, 3 i. of a saturated solution of chlorate of potash every two hours.

Oct. 3d.—Seemed very weak. Respirations quiet, about 30; pulse 130. There is a grayish coating over tonsils, posterior fauces, uvula and back of tongue, said to be less general than before entrance. A tenacious, frothy mucus is coughed up through the tube.

4th.—Had a good night. Expectoration as above, more abundant. Upper part of neck, especially on left side, is much swollen.

5th.—Neck considerably swollen; no respiration by mouth; tube was removed, on account of irritation, with relief; tongue is entirely covered with a thick white membrane; fauces as before; pulse 120.

6th.—More expectoration, more easily raised; respiration easy, through opening in trachea; tube has not been re-inserted, as it did not seem necessary. There is an erysipelatous blush about the wound.

7th.—Some appetite; otherwise as before.

8th.—Wound is covered with a white coating, similar to that on

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the tongue. Erysipelas fading. Patient sits up in bed and reads. Takes food with relish.

Oct. 10th.—Membrane gradually disappearing from wound and mouth. Can expire quite forcibly through the mouth.

12th.—Spoke aloud to-day for the first time; quite hoarse. Neck much less swollen; wound in trachea still open, but gradually filling up with healthy granulations.

15th.—Wound closed, so that no air comes through. Voice still quite hoarse; eats and sleeps well; countenance of good color; membrane nearly gone from the mouth.

16th.—Steam shut off. Patient dressed.

21st.—Wound filled with granulations, even to the surface of the skin; edges brought together by adhesive plaster.

Nov. 3d.—Discharged, well. Tonsils somewhat enlarged; voice still rather hoarse, though improving every day.

Within the past three months I have seen two other cases of croup, for the relief of which I performed tracheotomy.

One was a child of two years, who had been sick for a week without seeing a physician; the gentleman then called in sent for me in consultation. I found the child moribund, apparently, respiration exceedingly difficult and very noisy, voice gone, countenance livid and pulse very frequent. The trachea was opened as soon as possible, but the child died shortly afterwards.

The other case was in a child $2\frac{1}{2}$ years old, who had had croupy symptoms for three days, and had been treated by steaming the air and otherwise very rationally. When seen by me, there was lymph on the tonsils, neck somewhat swollen, countenance somewhat dusky, respiration labored, cough very hoarse and voice a whisper; there had been but very little sleep for forty-eight hours. The trachea was immediately opened and the tube inserted without any trouble, the child being etherized. Immediately after the operation the child dropped into sleep which lasted for several hours, the breathing became less labored, and recovery seemed possible; but the next day the symptoms became worse, though never so bad as before, and the little patient died of exhaustion on the third day after the operation.

In these cases the recoveries corresponded to the general rule that the older the child the more apt it is to get well, if attacked with membranous croup, more especially after tracheotomy has been performed. There might be a question whether the first two cases ought not to be called diphtheria, but there was no symptom of the latter disease present which did not also belong to croup. The fact that four children in the same family were attacked with the same disease, of whom two died, would seem to point to a disease highly infectious or contagious. In many cases, however, the diagnosis is very difficult between the two diseases; in fact, it seems to me impossible sometimes to say which is the disease we have to treat, there being no entirely characteristic symptom in one which may not occur

in the other. The French include both these affections under one name—"diphtherite"—and it certainly seems to me much more philosophical than to have two names for cases which differ more in degree than in anything else, the diagnosis of which is so often very uncertain. The third case reported is quite interesting, as the child was very low when operated on, and it was the opinion of the physicians and surgeons of the Hospital, many of whom were present accidentally, that the case would be fatal; in fact, artificial respiration was necessary: this was done by Dr. Buckingham, who had seen the patient before her entrance to the Hospital. The long persistence of the hoarseness and the dusky hue of the countenance in the first and third case is also worthy attention.

CASE OF PHLEGMONOUS ERYSIPELAS, FOLLOWING THE HYPODERMIC INJECTION OF A SOLUTION OF SULPHATE OF MORPHIA.

By J. W. MERRIAM, M.D.

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A FEW weeks ago, while suffering from an attack of lumbago, resulting from exposure to a draught of cold air on board steamer, I took an hypodermic injection of a solution containing half a grain of sulphate of morphia. The injection was made over the *supinator longus* of the left arm. Care was taken to avoid puncturing a vein, and not even a drop of blood followed on withdrawing the syringe. The next morning the arm was somewhat sore to the touch, and the neighborhood of the wound a little more red than usual, but no importance was attached to these symptoms, as they had frequently occurred before in my own person, and had disappeared without any serious results. I did not look at the arm again till the following day (about forty-eight hours after the injection), when I noticed around the puncture an ecchymosis of the size of a quarter of a dollar, sharply defined, of a bright red color, which did not disappear on pressure. The forearm was considerably swollen and inflamed, and began to assume an erysipelatous aspect. It was kept painted with tincture of iodine for the next twenty-four hours, until on the following day, Dr. N. F. Martin, the Post Surgeon at Fort Mojave, discovered the presence of matter, and substituted a poultice for the iodine. In the course of a couple of days a free opening was made, the matter evacuated, and the poulticing continued.

The whole back of the forearm was now exceedingly tender, and the skin of a bright red color, tense and shining. A wash of acetate of lead and opium removed all the unfavorable symptoms; the wound was dressed with Turner's cerate, and the case rapidly pro-