

must not be forgotten. It will be well to ascertain what kind of place has hitherto suited him best, whether a high or low place, a hot or cold place, a bracing or a moist and more relaxing air. Speaking generally, phthisical patients are best in a warm but not hot place fairly high up and with a more or less bracing air; at any rate, great heat and great moisture do not suit most.

With respect to the place especial consideration must be given to its accessibility and to the accommodation available. In regard to accessibility we have to consider, not only the distance of the place and the time it takes to reach it, but also the means of travelling thither. Some places comparatively near, like Davos, are more troublesome to get to—at any rate, at certain times of the year—than those further away, like Madeira. There is also to be considered the ease with which the patient's friends and relatives can make the journey to and fro, and the facility offered for the patient's return home if it should be necessary. Nervous patients often object strongly to the feeling of being locked up in a place from which they could hardly move, even if it were necessary, until the winter was over. The accommodation is also an important factor, for some excellent climates are quite unavailable for the want of such hotels or dwellings and such cooking or comforts as an invalid must have. For these local details local knowledge is necessary, and it is well for patients to put themselves into relation with the medical man of the place as soon as they arrive, so that they may obtain the best advice as to the part of the town to live in and the actual lodgings and rooms available. A great deal turns on these points, and the information can only be supplied by a resident in the place with the necessary knowledge.

If it is settled that the patient shall go abroad he must leave the country before the bad weather sets in—that is, before November—and must time his journey so that he reaches his destination at the right season and is not exposed on the way to great extremes of temperature; for instance, if he were going to Australia in October he would not go through the Suez Canal and Red Sea, but would take the voyage round by the Cape, or if going to Davos he would arrange to get there before the winter had set in.

The places recommended as winter resorts for phthisis differ so much from one another in respect of climate that it is difficult to see what they have in common, yet good results are obtained in suitable cases with all alike. Statistical statements are most unreliable—first, because of the smallness of the numbers dealt with, and, secondly, because there is no guarantee that the cases in each group are really patients in the same stage or condition of the disease so as to admit of fair comparison *inter se*. The only requisite which it appears every suitable climate possesses is that it should be such as to admit of the patient being as much in the open air and sunlight as possible. Wherever a patient can spend all day out of doors, and when indoors can still live in a pure atmosphere, phthisical patients will do well; and I have little doubt that, with the same precautions and subject to the same *régime* that phthisical patients voluntarily submit to abroad, they might easily live and benefit in many places at home in spite of our cold winds, moist air, and comparative want of sun in winter.

I may conclude, much as I began, by stating that in this question of wintering abroad we have to decide not what is best in the abstract for phthisical patients in general, but what is the best possible under the circumstances for a particular case. What these circumstances are will take time and trouble to investigate, but they are the prime factors in the problem. To come to the right conclusion in any given case requires some knowledge and experience, much care and trouble, and, most of all, sympathy and common sense.

Wimpole-street, W.

A CASE OF TRAUMATIC TETANUS TREATED WITH TETANUS ANTITOXIN; RECOVERY.

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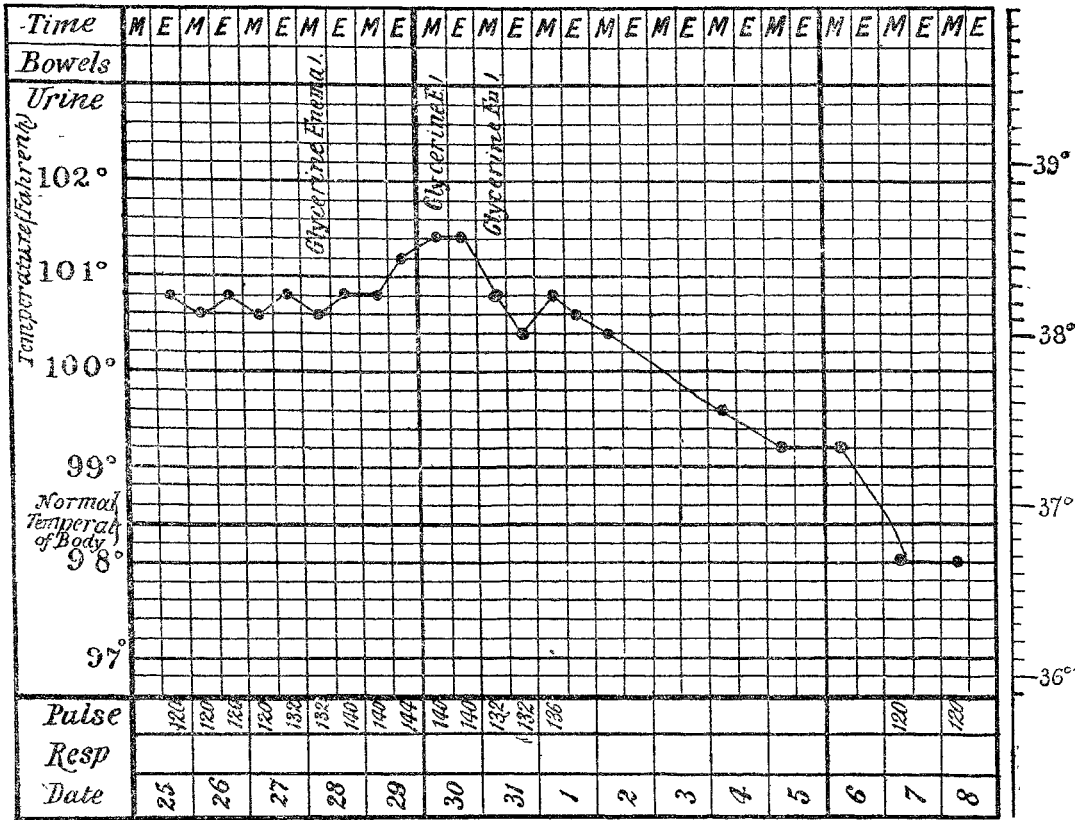
DURING my vacation in Arran I heard incidentally on a Sunday morning (Aug. 25th last) of a case of "blood poisoning" after an injury to the foot. I was told that the patient was the daughter of a butcher at Corrie, and had already been seen by two medical men, who had given a fatal prognosis. When passing the house later in the day I was hastily summoned, and found the child, a girl aged four years and a half, in a state of opisthotonos, the lips blue, the face cyanosed, the eyes turned upwards, and the conjunctivæ insensible. I could not detect any pulse at the wrist, and respiration was arrested; on listening over the heart, however, feeble, slow pulsations were heard. Under the influence of a hot bath respiration gradually recommenced, the appearance improved, and the pulse gained in frequency and in force. The spasm of muscles relaxed to a moderate extent only, the legs remained extended, and the muscles of the calf and thigh were rigid; the muscles of the upper limbs were also firm, but the hands could be moved slightly. The muscles of the abdomen were in strong contraction, the recti being prominent. Respiration appeared to be effected entirely by the intercostals, but the movements of the diaphragm (if any) may have been masked by the condition of the abdominal walls. When the immediate anxiety about the patient was somewhat relieved I learnt that, in running about with bare feet, she had cut her left foot badly about a fortnight before, there had been a great deal of hæmorrhage, and the mother had succeeded in extracting a piece of glass, which she thought was part of a broken jelly jar. The foot had been bound up and had been thought to be healing nicely for a week, and then lost its healthy look and did not progress. It was possible that in the interim the child might have played in the slaughter-house or in the adjoining stables. During Aug. 20th, 21st, and 22nd she had not been as cheerful as usual, she had lost appetite and had been much quieter, but no medical man was sought until Aug. 23rd, when she had a succession of severe convulsions. She was then seen by Dr. Neil Fullarton of Lamblash, who at once recognised the case as undoubtedly one of tetanus and ordered the foot to be poulticed. He also commenced treatment with six grains of chloral hydrate every four hours, and a chlorate of potash gargle was tried, as the tongue appeared to be very sore, but the child refused to employ this, so glycerinum boracis was substituted. Between the 23rd and the 25th she had numerous severe convulsions and was seen by a German medical man staying a few days in Corrie, who agreed with the diagnosis. Much difficulty had been experienced in attempting to induce her to take the chloral; the violent convulsion which I witnessed was attributed to the excitement of endeavouring to persuade her to take it from a spoon. The mother showed me the injured foot; there was a deep cut nearly three inches long, extending transversely across the inner side and sole of the foot about an inch behind the big toe; the wound was granulating and looked fairly healthy, and no foreign substance could be detected with a probe. There was no tenderness or swelling along the course of the lymphatics. I left a note for Dr. Fullarton, who lived ten miles off, explaining the circumstances of my examination of his patient, and on my way homewards telegraphed to my friend Dr. Hewlett at the British Institute of Preventive Medicine for some tetanus antitoxin. Through the kind help of Mr. James Coats, who placed his steam yacht at my disposal, I was able to obtain and employ the antitoxin within twelve hours from the time it left London. During this interval there had been three severe convulsive spasms, none of them so alarming as the one I had first seen, but the general condition remained very much the same. The child was conscious and could speak in short sentences, not using more than three or four words, and then only to call for milk, or water, or to beg to be taken up or else

BRITISH COLLEGE OF PHYSICAL EDUCATION.—

A meeting of the governors of the British College of Physical Education was held at the office of the college, 83, Lancaster-gate, on Saturday last, when it was decided that the college should be incorporated under the regulations of the Board of Trade, that no members or licentiates should be admitted to the college without examination after Jan. 1st, 1896, and that the next half-yearly examination should be held at the People's Palace on Saturday, Nov. 30th. A subcommittee was appointed to suggest the names of eminent men to lecture on physical education.

put back to bed. She was extremely restless and fractious. The mouth was drawn up at the angles, the masseters being firm and rigid; the jaws could not be voluntarily opened beyond a third of an inch, and through the aperture the tongue could be seen to be much marked by the teeth and with an aphthous white membrane over the upper surface and yellowish sloughy patches on the lower. At the time of the convulsive spasms the jaws were always firmly clenched, and the tongue appeared to be driven forwards against the teeth. So far as I could ascertain the tongue had not been bitten; its condition resulted from the damage done by pressure in the course of convulsion. In addition to the three severe convulsive spasms above mentioned there had been very numerous little "starts" in which the only difference was the short duration; they would commence with a short stifled cry, then the body and limbs would become rigid and the respiration would be arrested momentarily, and then the spasm would partially relax. The feet could be bent slightly, but the general tonic rigidity of the calves and thighs persisted, and the abdomen remained firm and unyielding. During the intervals there was frequent complaint of epigastric pain, but there was no special tenderness on pressure, and the pain appeared to be similar to that so often met with after severe spasmodic cough. This, then, was the general condition when I obtained the antitoxin. Some difficulty was

slight "starts" were frequent and the tonic spasm had not materially relaxed. A third injection of ten grains was made in the left thigh at 8 P.M. on the night of the 27th. The child was very restless during the night, constantly asking to be taken up and frightened if her mother left her for a moment. At 6 A.M. and at 8 A.M. she had convulsive attacks, but these did not last long. At 10 A.M. on the 28th a fourth injection of ten grains was made in the right thigh. The sites of the former injections were still swollen and discoloured like bruises; they were also somewhat tender. A glycerine enema produced a slight motion. During the day the child appeared to be much better and brighter, and when I saw her at 7 P.M. the only unfavourable sign (as compared with previous days) was an increased frequency of the pulse. The thighs now looked so swollen that I thought of injecting a fifth dose into the buttock, but as she was being turned over a very severe opisthotonic spasm occurred, and the breathing stopped, the lips became purple, and the conjunctivæ insensible; for the moment I thought the child was dead, but the heart could still be heard beating feebly, and on putting her hurriedly into a hot bath breathing again became re-established and the spasm relaxed. Not to disturb the child more than I could help, the fifth dose of ten grains was injected into the front of the left thigh near the knee. She passed a fairly quiet night after this, only being disturbed by slight



experienced in powdering the ten grains, the dose employed, as the arrangements in the cottage were distinctly primitive. In place of distilled water I had to be content with water which had been freshly boiled and allowed to cool, but I found that prolonged patient stirring was needed to dissolve the ten grains in a fluid drachm of water, and then, having only an ordinary hypodermic syringe at hand, the dose was injected under the skin of the front of the left thigh, the needle being kept in position while the syringe was refilled. Beyond the momentary pain with the first insertion of the needle, the injection of this quantity of fluid gave very little discomfort, the resulting swelling speedily becoming somewhat reduced in size. The first injection was made at 11 P.M. on Monday, Aug. 26th, and the condition of the child remained very much the same during the night. At 2 A.M. she had an opisthotonic convulsion and another at 4 A.M., but according to the mother's account these, though bad, were not as severe as the convulsions she had had the previous day. At 10 A.M. on the 27th a second dose of ten grains was injected high up on the right thigh; there had been no material change in the temperature, but the child was perspiring profusely about the head, neck, and thorax. The pulse was still of good quality, and nourishment was well maintained by milk, which was frequently asked for. The day passed quietly enough, though the

convulsive starts. At 10 A.M. on the 29th a sixth injection was made in the right thigh above the knee. At this time it was found that the muscles of the calves were much less tense and the mouth could be opened a little more. Slight spasmodic starts occurred during the day, and when seen at night she was found to be covered with numerous sudamina, some reddened, giving the appearance of a punctate rash. She complained of much irritation about the forehead and scalp. The temperature was 101.2°F., the pulse 144 and more feeble. Whisky in half-drachm doses was accordingly given at intervals with the milk. On the morning of the 30th the temperature was 101.4° and the pulse was still feeble. A glycerine enema produced a copious motion, pale and formed. Patches of urticaria were found on the thighs in the neighbourhood of the injections, but the swellings had almost entirely subsided and only one of the sites of injection retained a bruised discolouration. On the morning of the 31st, at 6 A.M., a slight opisthotonic spasm occurred, but when seen at 10 A.M. the calves and thighs were much more flexible, and although the masseters could still be felt as firm bands there was not so much distortion of the features. The abdominal wall remained tense, and there was much complaint of pain over the epigastrium. Another glycerine enema again resulted in a copious evacuation. During the day there was much trouble with mucus in the mouth, which was ejected with blowing efforts. The accumulations of mucus gave much

distress, and several slight starts occurred after efforts at expulsion. During the afternoon the child appeared much easier, holding a feather in her hands and playing with it. The limbs were not so rigid; she could draw up the thighs in bed. She slept at intervals and was noticing more. The evening temperature was 100.4°. On Sept. 1st there was still much mucus coming from the mouth, and occasionally this was blood-tinged. The child slept during the greater part of the day, sometimes waking with a convulsive start, but going to sleep again almost at once. On Sept. 2nd her condition had much improved, but she was still troubled with mucus. The temperature was 100.4°. On Sept. 4th the temperature had fallen to 99.6°. Much blood came from the mouth with the mucus. She played with her toys, but did not talk. During sleep the mouth had been much more open, and the pained look had left her face. On Sept. 5th after a quiet morning she had a slight opisthotonic spasm on being suddenly startled. The temperature had fallen to 99.2° and the pulse had gained in volume. Later in the day she talked to her brothers and played. The abdominal muscles were still somewhat rigid. She could turn in bed. During the night of Sept. 6th she had a slight spasm, in which she seemed to be in pain, but she went to sleep almost immediately afterwards. A similar slight spasm occurred on the afternoon of the 7th, but the temperature was then only 98°. I examined her for the last time on the evening of the 8th, and although not completely healed the wound in the foot was much smaller and looked healthy, and although there was much sense of resistance over the epigastrium there was no complaint of tenderness. She could move freely in bed, and when seated on her mother's knee her legs hung down freely, with bent knees and flaccid calves, but she was unable to sit up unaided. I considered her convalescent and returned to town, convinced that it would be only a few days before I should hear of complete restoration to health. On Sept. 10th the mother wrote that the patient "is getting on nicely; she can sit on my knee to-day without any support she has not been one bit stiff to-day." On Sept. 12th she wrote that she "is still improving; I see such a difference in her every day; she takes little spasms yet, but they don't last any time, and she does not get stiff under the knee. When I was lifting her out of the bed she put her arms round my neck and lifted herself up till she stood on her one foot." On Sept. 16th she said the patient "is able now to lie on either side and sit alone in bed. She only cried twice with pain during the night; she has not any pain during the day." On Sept. 19th she further wrote: "She is able now to creep on her knees from one end of the sofa to the other; she can turn herself any way. The skin has come off her hands, feet, knees, part of her body, and behind her ears." Finally, on Oct. 2nd, she wrote saying that she "can walk alone now, but she is still lame. I do not know whether the lameness is from weakness or that she is afraid to bend the sole of her foot. The foot is quite healed up, but it seems to be tender. She has no pains in her stomach nor anywhere else. There is no twitching of any kind. She plays with the others and is as bright as any of them."

Remarks.—The points of especial interest in this case are the following:—1. The proximity of stable and slaughter-house, which afforded possible sources of contamination of the wound. 2. The readiness with which milk was taken throughout the course of the illness. 3. The degree of spasm of the abdominal and respiratory muscles; this gave rise to the urgent symptoms quite at the beginning and also constituted the chief feature during the later stages; tonic and spasmodic contractions of these muscles persisted long after the muscles of the limbs had become flaccid. 4. The amount of mucus and blood coming from the mouth. Although the tongue was obviously sore and injured quite early in the case, this over-secretion of mucus only became manifest some days after the antitoxin had been used. 5. The excessive perspiration and the sudamina also were only noted after the antitoxin. 6. The severity of the convulsions as well as the frequency became much reduced after the antitoxin, though one of the worst attacks occurred on the 28th. The slight rise of temperature may have been due to the antitoxin; the urticaria was certainly, I think, a direct result. While it is extremely difficult to speak with certainty about the benefit of the antitoxin, I can only say that when I first saw the child I fully anticipated a speedy fatal termination, and this view was shared by two other medical men who saw her.

Whenever we attempted to give medicines by the mouth so much excitement resulted that we had to desist. Certainly after the antitoxin the child was more peaceful, and the severity of the opisthotonic spasms was less.

Harley-street, W.

HEART FUNCTION AND PELVIC LESIONS IN THE FEMALE.¹

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I WISH to confine my remarks, which will be brief, entirely to the so-called "functional" heart disorders. Of a little over 300 women whose hearts and pelvic organs I have examined during the last six years, and of whose cases I have accurate records in my possession, I have been able to gather twenty-five cases in which functional heart disorders were found clinically to coexist with obvious abnormal conditions in the pelvis. No case is included in these twenty-five in which there was a previous history of rheumatic fever or in which there existed organic valvular disease. Pregnancy and obvious hæmic conditions, such as are produced by profuse leucorrhœal discharges and abnormal uterine hæmorrhages from various causes, have also been carefully excluded. A careful analysis of the symptoms and clinical history of the twenty-five cases shows at a glance that the majority of the patients sought relief for troublesome symptoms referred directly to the heart, but it also indicates a minority who complained primarily of distress in the region of the pelvis. Some believed themselves to be the victims of heart disease from the construction which they themselves placed upon reflex submammary pain associated with a sense of throbbing or palpitation over the præcordium. Their ages ranged from seventeen to forty years. No case where the woman was above forty years of age is classified, in order to avoid the influences of the menopause. I shall not give a detailed account of each patient; it will be sufficient for my purpose to speak of them in groups arranged according to the particular pelvic organ affected.

Lesions of the uterus.—Of the twenty-five cases the uterus was affected in eleven instances. Eight of the eleven were patients in whom the uterus was displaced either backwards, forwards, or downwards. All these were married, and all except one, who was sterile, had borne several children. One of the eleven was a case of a rapidly growing abdominal uterine fibroid in a single woman aged twenty-eight years who had been under observation for two years. There was never any metrorrhagia, and but slight menorrhagia. The remaining two are cases of slowly growing pelvic uterine fibroids in women nearing the age of forty who complained of no pelvic symptoms of any kind and who were quite ignorant of their existence. All these women, however, suffered more or less acutely from symptoms and disturbances directly traceable to the heart in the form either of palpitation, throbbing, giddiness, pain and uneasiness over the præcordium separately, or of a combination of all. In some of the cases the heart's action was intermittent and in others it was irregular, the irregularity manifesting itself in a variation in the strength of the beat or in the time of the beat, and sometimes in a combination of both. In one of the cases of slowly growing pelvic fibroids—that of a married woman aged forty years—the nature of the cardiac derangement was very interesting. For ten, twenty, thirty, forty, and even fifty beats or more the heart's action was hurried. This hurried period was followed by a slow interval during which the cardiac beats were comparatively infrequent. These waves of hurried and slow action alternated, and in order to detect them it was found necessary to watch the pulse for several minutes. Also in this particular case variations in the blood pressure were observed to occur; for from one to three minutes the tension was high, and then there ensued a period during which the tension was low, which continued rather longer than the high-tensioned periods. These periods recurred in regular sequence. Such a pulse I have since occasionally met with

¹ Read before the South Wales and Monmouthshire Branch of the British Medical Association, February, 1895.