



*Symptoms, Progress & Treatment,
of
Five Cases
of
Cerebro - Spinal - Meningitis
by*

David Frame M. A.; M.B.; C.M.O.;

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At the onset of the disease, patients complained of headache accompanied by a sensation of coldness, while in some cases it amounted to rigors. This headache instead of diminishing increased in severity until they were compelled to go to bed. For a few days they continued at work although hardly able to walk, and on sitting down to their meals were unable to partake on account of nausea and loss of appetite. At this period of the disease the diagnosis, in the first two or three cases was, that they were severe

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attacks of influenza. No improvement, however, taking place under the treatment for that disease, and other symptoms intervening, our belief in the accuracy of the diagnosis was shaken. For example, vomiting soon set in, and also inability to bear the slightest noise or light - photophobia - with pains in the eyes and across the bridge of the nose. This pain in the eyes was described as if there were cords pulling "tugging" inside them towards the middle line.

Headache was sometimes frontal, sometimes occipital, while at other times it was general. In one case the painful parts of the head were, a spot on the top and on either temple.

Giddiness, too, was complained of whenever the head was raised from the pillow.

Patients got into a drowsy or comatose state, but when spoken to they answered, opening their eyes and looking at me in a dazed manner.

They were very irritable and delirious at times.

The delirium was of the typhoid type: picking at the bed-clothes was never noticed. All the patients were troubled with hallucinations and horrid dreams. A feeling of numbness was complained of, in one or two cases, on one side of the body, but nothing to approach hemiplegia. In one case, cold was complained of in the lower limbs which felt as if a wet sheet was wrapped round them. Aching in the lower limbs was general, while one suffered from paraplegia for several days. Twitchings or spasmodic contractions of the upper and lower limbs were observed.

Rigidity of the cervical muscles came on

about the fifth or sixth day. This symptom varied greatly in degree; so that at our visits the head was found retracted according to the amount of rigidity then existing. Pain all along the spine was common to all, while in the lumbar and sacral regions it appeared to be most severe. The decubitus was either on the back or on the side with the legs drawn up. Either of these positions, they said, was the most comfortable.

The temperature, in all the cases, was never very high, while during the early portion of the disease it was subnormal, and the highest never exceeded $102^{\circ} F$.

The pulse was also very slow at the outset, but as the patients began to improve the pulse increased in frequency. In one case which was complicated with heart disease, the

pulse rate and temperature ranged higher than in any of the others, but the fluctuations were not great. The average pulse rate being about 90 per min. and the temperature 100° F.

The condition of the skin varied a good deal, but, in no case, did assume that pungent feeling to the touch which one finds in pneumonia. At times the patients perspired a good deal. Erythema was noticed in one case, while in another purpuric spots occurred. The other three patients had no rash whatever. The hands, from the tips of the fingers to the wrists, desquamated: indeed desquamation was general.

The organs of sight and hearing were affected. Patients became blind and could only distinguish the outline of objects. (After they were able to go out of doors coloured

glasses were obliged to be worn.) The eyeballs became so prominent that the eyelids seemed too small to cover them. Diplopia was found to exist in all cases.

During the early part of the disease the pupils were contracted: later they were dilated.

Deafness came on about the end of the first week, but passed off. Pain and noises in the ears continued for a long time.

The tongue in every case was pale, but not coated. Mouth tasted badly and the odour of the breath was very offensive. In one case the patient herself complained of the offensiveness of her own breath, while her nurse was sickened by it.

The bowels were, with one exception, in all cases very stubborn. For some little time before they moved, the patients felt faint.

then this feeling of faintness gave place to a feeling of sickness which passed away as soon as they acted. Precisely the same feelings were experienced prior to an attack of vomiting which also disappeared on the completion of that act. The character of the vomited material was green in some cases, while in others it was dark blue in color.

Dysuria was present in all cases: the patients would rather retain their urine for some hours than void it, but only one required to be catheterized, and that only on two occasions. The same feelings accompanied micturition in precisely the same order as in defaecation and in vomiting. No albumen was ever detected in the urine. The odour of it, however, was offensive, while, in one case, it was so bad that it had to be removed from the room immediately.

after it was voided.

As no fatal cases occurred I am unable to record pathological appearances. This appears phenomenal when compared with the records of all former epidemics in which the number of fatal cases exceeded fifty per cent. It might also raise doubts as to the correctness of the diagnosis, but of the latter I am perfectly convinced.

To state exactly what was the origin of the small epidemic, would be extremely difficult, if not impossible. Certainly, it was not due to overcrowding, to which it would seem that the epidemics in France were associated, or to personal filth in those, that occurred in the Workhouses in Ireland in 1846. Having eliminated these two factors we must look somewhere else for the cause. The town in which these cases occurred has a population of about 3,000 souls. It is situated in South Wilts.,

at an altitude of 550 feet above sea level, with a subsoil of chalk. It possesses a "perfect" drainage system, minus a water system. That being so the drains can not be flushed except during wet weather, and the exceptionally dry spring and summer, together with the great heat may have been the origin. Further, it occurred when the health of the community was good. This then would lead me to support the theory that it is due to some atmospheric or telluric influence. The following is an abstract of the rainfall during the first six months of the year:—

January 2.29 inches

February 4.65 "

March60 "

April17 "

May 1.42 "

June 1.49 "

Looking at these figures we at once see that March and April were the driest months. It was, too, during

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these months that the cases cropped up; thus agreeing with the observation of Hirsch that the disease occurs during the winter or spring months and in dry weather.

Consulting various authorities it would seem that males were more liable to this disease than females. In this case, however, all the patients were, with one exception, females. Further, they had all reached adult life: their ages ranged from 23 yrs to 55 years. Our experience also coincided with that of Limesen viz. that all those attacked were healthy and well-nourished.

Is this disease infectious? This question I feel inclined to answer in the affirmative, although the data on which I do so is very slender: only one case could be directly traced to originate thus. One other member showed some symptoms of it, but being vulgarly healthy was able to throw it off. In our experience it did not appear to be contagious, but to express an opinion on that point I do not feel competent.

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As all the five cases were so much alike, both as regards the symptoms and the course the disease ran, I will only give one case in detail, extending from the beginning of her illness until she was able to get out of doors.

On April 23rd of the present year Miss W- was seized with a bad headache, pain in the back of the neck and all down the spine. She also complained of pain in the eyes. Felt as if she had caught a bad cold. The headache was not like an ordinary one, but was compared to something crawling inside her head.

April 24th Headache was worse this morning from the time she left her bed, as also the pain in the cervical region and along the spine. She could not bear talking, or the noise of a spoon or fork falling on the table. Her sister practising the violin produced such an effect upon her that she seemed to want to fly away.

April 25th Felt to day about the same as

yesterday, but more tired: her limbs ached so. When walking it jarred her head, while she, during the same exercise, experienced great pain at the pit of her stomach. She could neither stoop nor bend her head without feeling giddy. During the night she rested badly and was delirious.

As it was almost the time for her being "poorly" she thought that the foregoing symptoms might be premonitory to their appearance. To-night then she took a pill in the hope of bringing about their appearance and thereafter release from her sufferings.

April 26th "Menses" came on, but with no relief to her symptoms: indeed her sufferings were aggravated. Her limbs ached less, but thought that the pains had left them and had gone to increase her headache.

Had no appetite to-day and took a Seidlitz powder at night.

In the night she was again delirious.

April 27th - During the preceding days she

continued at business, but left off to-day at her dinner hour. How she came along the street she does not know.

For the first three days her mother says she had a bright colour, but on the fourth day her face got pale. She also, ie her mother, noticed that at times she talked strangely and was exceedingly irritable with her sisters. Her eyes looked strange, very full, and felt as if they would burst. She could not look at anything steadily. When she shut her eyes her head was less painful, but the noise in it was compared to that which we hear when a sea-shell is put to one's ear.

In the afternoon she sought medical advice. Acting on that she went to bed. Great sickness then set in.

April 28th On visiting Miss W- this morning, no improvement was found to have taken place in her condition. Complaints of cold feet, and a hot water jar is ordered to be put to them.

Bowels constipated; so that two Pil. Colocynth. Co. are to be given at night, followed by a large sudorific powder in the morning.

Pulse 56 : Temp.^{ax} 97° F.

Ap. 29th Pains worse: Bowels have not acted: vomiting incessant and in great quantities. The vomited matter is bluish in colour.

Pulse 56. : Temp.^{ax} 97° 6.

Arrived at the conclusion that we had erred in our diagnosis. Instead of its being a case of Influenza, it was a case of Cerebro-Spinal-Meningitis. The nape of the neck was therefore blistered by means of Liguor Epispasticus. Ice cap applied to head, which relieved the pain considerably.

Ap. 30th No improvement. Hair ordered to be cut short at which they demurred.

As the dorsal decubitus has always been assumed, up to the present, patient complains greatly of the raw surface in her neck. No doubt it is aggravated by the pillow.

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Pulse 56: Temp^{ax} 94° F.

May 1st No improvement in patient's symptoms, and as the bowels have not acted two minims of Croton oil were administered.

Pulse 56: Temp^{ax} 96° 6 F.

May 2nd Bowels acted yesterday after the Croton oil was given. This morning patient is sick, and vomiting greenish material: less able to bear light and sound to-day. When she raises her head off the pillow gets giddy. On shutting her eyes she compares the noise in her head to that of a kettle simmering on the fire. Has perspired a good deal in her head during the night.

Pulse 60: Temp^{ax} 96° 8 F.

On again visiting patient in the evening we found her pulse to be 64 per min., and her temperature normal. The only relief which she obtains is from the ice-cap. For a short time after it has been freshly charged, she feels better.

May 3rd On visiting Miss W— this morning we found her suffering much from headache, photophobia, and is disturbed by noises. Her tongue is pale, but not thickly coated: bowels constipated.

Pulse 56: Temp^{re} 97° 6 F. Skin a little hot.

May 4th Patient has been vomiting to-day, and the vomited matter is green in color.

Pulse 64: Temp^{re} 98° 4. Skin moist.

May 5th Deafness came on last evening. During the day she had her hair cut short. She felt faint for thirty minutes, then sick, and afterwards vomited. Having done so the faintness as well as the sickness passed off. Patient complains of the prominence of her eyeballs, so much so, that her eyelids seem unable to cover them. Her cervical muscles are very stiff. Dysuria is present which is probably due to the pain experienced in passing her urine.

Pulse 64: Temp^{re} 98° 4 Skin moist.

May 6th As the bowels have not yet acted well, three minims of Croton oil were administered this morning. Urine drawn off by means of a catheter.

Pulse 96: Temp^r 98° F.

When visited this evening we found that the bowels had acted freely. Patient is almost free from headache, and some sleep has been obtained during the day. Clonic spasms occurred while asleep in the upper and lower limbs.

Pulse 76: Temp^r normal.

May 7th Patient slept well during the night. At 3 a.m. she, however, awoke and from that time till 8.30 a.m. she vomited incessantly - greenish material. For breakfast she had an egg beat up in tea and is now (10 a.m.) feeling better.

In the evening she was again visited, and her nurse reported that she continued to vomit at intervals during the day, but towards evening slept for one and a half hours, after which she woke up feeling pretty well.

Pulse 80: Temp^{tu} normal.

May 8th Miss W— feels better this morning, having slept pretty well during the night. No vomiting occurred. She, however, complains of pain in her lower limbs. Has taken egg and milk for breakfast.

Pulse 60: Temp. 98°.

At our evening visit we were told that she had felt very well all day and had slept at intervals. Towards evening the pain in her head returned, but is not quite so severe, and she thinks, altered in character. Photophobia is less.

Pulse 60: Temp^{tu} 98° 7.

Miss W—, is now unable to take sugar, although formerly was exceedingly fond of it.

May 9th Patient slept for eight hours during the night, woke at 3 a.m. feeling sick and vomited. On the fresh application of ice to her head, and giving her small pieces to suck, the vomiting ceased, when she again fell asleep. On waking

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she partook of a "good" breakfast consisting of egg
beat up in tea and biscuits.

Miss. W- is free from pain so long as she lies
on her side, or on her back: complains of a pain
across the bridge of her nose.

Pulse 72: Temp^{re} 99° 2 F.

On paying her a visit in the evening we were told
that she had passed a fair day, but that the pain
in her head had been more severe.

Pulse 76: Temp^{re} 99° 7.

May 10th At our morning visit we were told that
the patient had slept badly all night, but that from
7 a.m. till 9 a.m. she slept. At the latter hour she
partook of some breakfast after which she felt fairly
well.

Pulse 72: Temp^{re} normal.

Evening:- From 2 p.m. till 8 p.m. patient slept very
quietly. During her sleep she "jerked" a little, but
not ^{so} violently as before. During the day she has
taken nourishment freely.

The faintness and the sickness which she experienced before micturating etc. has now passed away, and neither sickness nor faintness has been felt for 39 hours. On attempting to sit up in bed, pain in her head and back returned. She is in good spirits and is feeling "well."

Pulse 64: Temp^r: 99° 4 F.

May 11th Patient slept well during the night from 10 30 p. m. to 4.30 a.m., and again from 6 a.m. to 8 a.m. Feels "well" this morning.

Pulse 64: Temp^r: 99° F.

Evening:— Has been able to sit pillowed up in bed for a few minutes during the day.

Pulse 56: Temp^r: 100° F.

May 12th Patient was only visited once to-day.

She has been able to sit pillowed up in bed for 45 minutes. At the end of that time she experienced a severe pain across the bridge of her nose, but on lying down fell asleep. When she awoke, was free from pain.

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To-day she partook of butter for the first time since
the beginning of her illness.

Pulse 56: Temp: $99^{\circ} F$.

May 13th The report this morning was, that the
patient slept well during the night, and partook of a
"good" breakfast. She says that she feels well, and
I may add, that she looks it; intends to get out of
bed for a little to-day.

Pulse 68: Temp: normal.

May 14th Miss W— got out of bed yesterday after:
: noon at 4 30 p.m. and sat for one and a half hours.
After getting up she did not feel so well, but in
a short time this feeling passed off. On returning
to bed she felt faint, then sick. Headache accom:
:panied by pain in the back and across the
bridge of the nose returned. She went to sleep for
a little and awoke feeling better.

During the night she did not sleep so well
and was delirious. This morning, however, she feels
comparatively well, but not so well as yesterday

Pulse 64: Temp: normal.

May 15th Last evening headache returned, yet patient slept well during the night. This morning she feels better and was able to take some breakfast. Her tongue is clean.

Pulse 60 : Temp. normal.

May 16th Since yesterday patient has had a slight return of headache, and on going to sleep dreams and talks in it. She had, however, on the whole a good night. One pill which was administered last night has operated twice this morning. She still feels giddy on sitting up.

Hands, from the tips of the fingers to the wrists, have peeled.

Pulse 64 : Temp.^{tc} normal.

May 17th Patient sat out of bed yesterday afternoon for one hour, but when she got back to bed was sick and vomited some "yeasty frothy material". This morning, however, she is comparatively well.

Pulse 80 : Temp.^{tc} normal.

May 18th Yesterday patient got out of bed for one

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a quarter hours. She felt a little giddy, but was not sick as on previous day. Feels "well" this morning, and is now removed to a more cheerful room. Directly the wind blows on her face she complains of headache.

Pulse 76: Temp: normal.

May 19th Patient got out of bed yesterday forenoon and sat for one and a half hours, while in the afternoon she again rose for a like period. When out of bed she felt pretty well, but had a slight return of the pain in the back of her head. This morning she has a slight headache and pain in her eyes. A pill was given last night, and her bowels have moved this morning.

Pulse 64: Temp: 98° 2 F.

May 20th Patient feels very well this morning. She joyously told me at my visit that she sat, propped up in bed, for two hours yesterday and got out of bed for two and a half hours.

Pulse 80: Temp: 99° 6 F.

May 22nd Yesterday the patient was not visited. Today she feels better and is going out for a short time in a bath-chair.

Pulse 78: Temp: 98° F.

May 23rd Patient feels well this morning and has, in no way, suffered from her outing of yesterday. From this date we ceased attendance, but occasionally met her taking a walk.

Treatment :- The line of treatment pursued was, in every case, the same. The patients were placed in a darkened room, hair cut short, and ice or cold water cloths were applied continuously to the head. The latter was comforting to, and soothed the patients. Salicylate of soda was prescribed at first in one or two cases but this increased the pains in the head so that drug had to be discontinued. Then powders consisting of calomel and opium were given but these the stomach rejected. We then elected to try these drugs in the liquid form, Liq. Hydrarg. perchlor. and Liq. Morph. Hydrochlor. In this form these drugs agreed well, which we pushed to the extent of administering them every three,

four, or six hours as the symptoms indicated. In one case - a female six months pregnant - vomiting was such a prominent symptom, so persistent and intractable to the usual anti-emetic remedies that hypodermic injections of morphia had to be resorted to. These were given twice a day, for at least one month, in doses of from 3 to 12 minims. Strange to say this female did not miscarry, although it was seriously considered whether it would not, in the interests of the mother, be better to bring on premature labour in order to alleviate her sufferings. However, some amelioration in her symptoms set in, and she was allowed to go on to full term. On the 16th June I was called at 4 a.m. to attend her in child-bed. Two hours afterwards she was safely delivered of a fine healthy

female child. For a week or ten days the mother suckled her baby, but as symptoms of narcotic poisoning were produced in the child after being put to the breast it was weaned. Both mother and child did well.

In no case did salivation or tenderness of the gums occur.

Counter irritation at the nape of the neck was tried, but the benefit accruing therefrom seemed so slight that it was not pushed: our sheet anchor was, in every case, Mercury and Opium.

On account of the long course of morphia great difficulty was experienced in three cases in overcoming that habit. They simply begged it to be given them and no matter how irritable, or how depressed in spirits they were before, immediately on its administration became quite gay.

Purgatives were given in order to overcome the constipation. Mild ones were tried in the first instance e.g. Salines, Cascara Sagrada, then calomel in grain doses for several hours in succession but these either proved inefficient or were rejected so that we were compelled to administer a more powerful drug as well as one of small bulk. Both of these properties existed in croton oil which we administered in doses of from 2 to 4 minims. Even this we found to act very mildly producing, in some cases, only one or two stools.

The diet in all cases consisted of milk or milk and soda water, beef tea and jellies. Where eggs agreed and were relished they were allowed. For vomiting, small pieces of ice were given.

During convalescence tonic treatment in

the form of Easton's Syrup was prescribed; then a residence at the sea-side was advised whither they went for one month and returned greatly benefited. Prior to their going there, and five months after they took ill, musical sounds almost drove them frantic, but they can now, ie about two months later, be listened to without causing them much headache.

Although now almost seven months since these took ill they are still subject to headaches, horrid dreams, and to giddiness on stooping.

The state of the atmosphere seems to have something to do with these headaches.

Sultry weather and bright sunshine aggravate their sufferings in this respect. Cold weather, however, seems to agree with them; because since it set in they have greatly improved.