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978-1-108-06893-2 - A Practical Essay on the History and Treatment of Beriberi:  
With Observations on Some Forms of Rheumatism Prevailing in India

J. G. Malcolmson

Excerpt

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A  
PRACTICAL ESSAY  
ON THE  
HISTORY AND TREATMENT  
OF  
BERIBERI.

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INTRODUCTION.

**A**LTHOUGH I am sensible that he serves medical science poorly, who encumbers it with ill digested matter, and that the frequent, unexpected and distant movements to which I have been subject, have deprived me of leisure for careful condensation, and broken off some of the most interesting observations and experiments, when they seemed about to establish important facts; I am encouraged to lay before the Board the following paper, from a hope, that it will be found to establish some important facts in the history, causes and treatment of Beriberi, and direct the attention to many obscure but important phenomena, hitherto little noticed or altogether overlooked. I shall attempt no systematic treatise on beriberi in its general history,

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*Introduction.*

but confine myself to an account of my own experience, borrowing from books only occasional illustrations of the disease known in the Northern Circars \* under that name.

There is no disease regarding which our knowledge is more defective; and in which practice has been more injuriously directed by wrong theory; and the most valuable remedies more abused, by being recommended in improper stages or forms of one of the most complicated maladies to which the animal economy is liable. A few scattered essays seldom met with; a very small number of detailed cases, and scanty accounts of others in systematic works, by authors who have never seen the disease, are all that have yet been given to the public; and therefore one “cannot wonder that an experience “so contracted should have left some symptoms of “the disease unnoticed and much uncertainty with “regard to the distinctions and pathology.”† My object shall therefore be, far more, to afford the profession copious materials than to build up a system, and to bring forward no opinions either in the pathology or treatment without the grounds for them, being fully stated; and having done this faithfully, I shall have less fear of expressing my opinions freely even when I am sensible that they can be of no further use than to direct enquiry.

Prize essays are principally useful by affording opportunity of recording collections of facts, which however important they may be to the advancement of knowledge, are yet too voluminous, minute, and

\* A province extending along the west side of the Bay of Bengal, from 15 to 20 degrees N. L.

† Parry on Angina Pectoris.

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uninteresting to the general reader to admit of publication in a separate form ; and with this conviction, I shall not hesitate to notice such inferences as the singular phenomena of the disease suggest, regarding other obscure affections and actions of the frame.

My personal experience in the disease has extended to most of the military stations in the Circars, at a time when it was peculiarly prevalent, and the records of several of the hospitals have since been kindly communicated to me, and according to a plan of study I have long practised in other diseases, the cases were individually carefully studied ; when they illustrated any fact satisfactorily or suggested new enquiries, they were copied or abridged for future reference, and the inferences suggested by each recorded and gradually generalized. The general facts thus obtained were afterwards subjected to comparison with a vast number of other cases, and corrected, enlarged or limited in their application by their evidence and that of clinical observation. This plan almost excludes bias from preconceived opinions ; and the study of the genuine records of the practice of other medical men, affords a body of unprejudiced evidence of great importance in giving stability and universality to individual observations, and showing the effects of various plans of treatment. I have found some of the journals of less use, from the superficial way, many of the most interesting cases are recorded, and the almost total neglect of important circumstances, evidently present, but only noted accidentally ; which must excuse the incompleteness of some of the following histories, which are in other respects too important to be rejected.

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#### 4 *Outline of the Symptoms.*

Under the name of Beriberi it is proposed to include all the cases, whether acute or chronic, of that peculiar affection of the lower extremities, chest and other parts, which prevails in certain Indian provinces near the coast and is known by that name amongst Europeans and is usually confounded by the Mussulmauns (like gout by the ancients) with rheumatism. The disease is named by the Telingeas “timmerree waivo,” but the term is not in universal use, the disease being by them also, confounded with other complaints. It has been adopted (after enquiry) on my information, by a distinguished Teloogoo scholar who gives the translation of the former word, “palsy, numbness, tingling” and of the latter “rheumatism.”<sup>1</sup>

##### *General account of the Symptoms.*

The disease presents such a variety of symptoms that it will be more instructive to consider them in detail, than to attempt any elaborate general description. It will be sufficient to describe the most remarkable characters.

It usually commences gradually, with a feeling of numbness, sense of weight and slight weakness and stiffness below the middle of the thighs, some-

<sup>1</sup> Dr. Pearse in a valuable paper on Beriberi presented to the Medical Board mentions that it is called in Teloogoo ఉబ్బి వాయువు - or తిమిరి వాయువు - Ooboo waivoo or Timmery waivoo which terms signify rheumatism combined with dropsy or swellings; and Messrs. W. Geddes and G. B. Macdonell state “that the Telingeas call it “wayawah,” and when there “is swelling it is called “ooboo vayawah” and when this disappears “timmerree wayawah.”

The Rev. Mr. Howell of Cuddapah informs me that వాయువు - voyuvu (which may be written either with a w, or v, although the latter is nearer the English sound) is a word frequently added to the names of diseases signifying both “wind” and “disease;” the received medical theories amongst the Gentoos ascribing most diseases to “wind.” The proper name of Rheumatism is వాయునొప్పులు - voyuvu nopalu; the latter word means pains. “In తిమిరి - timmeri there are two kinds. 1st. When cramp or numbness arises from sitting in one posture it is simply called timmeri, but when

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times preceded by muscular pains. There is slight œdema of the feet and legs, especially along the tibiæ, often found to come on after the other symptoms. The walk is unsteady and tottering even when the patient is not aware of weakness in the limbs, which are occasionally tremulous; spasms occur in the calves and soles of the feet sometimes becoming general and occasionally shooting to the chest and larynx, obstructing respiration and speech. The want of power often rapidly increases to almost total palsy, especially of the extensor muscles, and in a few cases, the patient after slight indispositi-

‘it is a distemper it is called timmeri voyuvu. In dropsical cases ఉబ్బు —  
“ooboo is never used; it signifies the uneasy sensations with swelling of the  
‘belly from indigestion. Oodara Pandoova పుదరపాండువ is dropsy.”

“It is called by the Mussulmauns of Southern India سوچ باءى Soojh  
Ba’ee (Hindee.)” *Dr. Pearce’s paper.*

“Among the Mussulmauns Soond which means (in Dutcanee) “numbness  
“is the general term used and under the supposition that it is connected  
“with rheumatism they sometimes call it Soond Ke Ba’ee.” *Messrs. Geddes  
and Macdonell.*

The late Dr. Herklots author of the Qanoon i Islam, gives in his report to  
the Medical Board for the 2d half year of 1823 the following account of the  
Hindoostanee terms used for this disease.

“In Bengal, denominated by the Mohummudan practitioners Soon B’hay-  
ree, and on the Peninsula Soond B’hay-ree, Soondee, or Soond Ka Murz,  
“ (vulgo Soon Ka azar;) but which might with greater propriety be termed  
“Paralysis Orientalis.”

“As to the appellation Beriberi, it appears to me perfectly unaccountable  
“how it could ever have crept into such general use as it has; for it is per-  
“fectly unintelligible to the Natives from whom it is said to have originated.  
“Though the word B’hay-ree does really mean a sheep in the Hindoostanee  
“dialect, and by repeating it (making allowances for the orthographical  
“error, in persons unacquainted with the language and consequently of the  
“proper sound of the word), we may form such a name as Beriberi; yet  
“after the most particular enquiries on the subject, I find the natives are to-  
“tally ignorant of any disease under that title.”

“On the Peninsula then, (which has been more particularly the sphere of  
“my observations) the disease is not called B’hay-ree Bhay-ree (sheep sheep)  
“but Soond B’hay-ree, signifying numbness and sheep; the latter in re-  
“ference to the gait of that animal, which some, (not all), patients afflicted  
“with this disease, have. The Hakeems make a further distinction in the  
“designation of this disease; and that is, when loss of power of motion in  
“the limbs is the most prominent feature, they do not call it by any of the  
“names before mentioned (which though commonly applied to the disease in  
“general, is more correctly made use of when numbness is the principal  
“symptom), but term it J’ho-la (a swining); and in like manner when  
“œdema is the predominant symptom, they denominate it Sooj (swelling).”

On the whole I am of opinion, notwithstanding these general statements by

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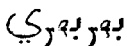
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on suddenly loses the use of his legs. Rigidity and various painful affections of the nerves accompany the paralytic symptoms; and there is sometimes pain along the spine, commonly at the two last lumbar vertebræ. In some cases the disease goes no further and a cure is effected: but more frequently, the numbness extends upwards towards the abdomen, there is general sense of lassitude and aversion to motion, and the hands, arms, and chest, (and in a few cases even the neck and lips) are gradually benumbed. There is oppression and weight at præcordia, dyspnœa on slight exertion, diffused

gentlemen so well versed in Hindoostanee, that the disease is not accurately or usually distinguished in the South of India by these or any other names. How much caution is necessary in adopting inferences founded on similarity of sound, will appear to any one who looks over a page of a dictionary of

Hindoostanee. He will find  Bhârbhâri "a swelling, a sore"

more near the word in question than those in either Good or Mr. Marshal's work on Ceylon: and a comparison of the Nosology P. 346 and Study of Medicine Vol. 3 P. 451 (Edition of 1822) of the former author, with each other, and with Mr. Marshal's work P. 208—210 will show still more strongly the uncertainty of such enquiries. It is necessary also to guard against accepting as a specific name of the disease, that applied to the symptom which attracts most of the patient's attention. The following extract on this subject is the more valuable as Mr. Geddes has been long engaged in the Study of the Medical works of the best Persian authors.

"In the Mussulmaun system, it is not to be expected that a disease similar to beriberi should be found, peculiar as it is to a part of the world so distant from that, from whence this people acquired their learning, and from the same cause it is believed, as well as from the obscurity attending their description of disease it is either not mentioned by the Hindoo systematic medical authors, or in so vague a manner as not to be discovered as an idiopathic disease. In the empirical works again, and among those also whose information has been acquired without the aid of books, the medical knowledge does not seem to have sufficed for the distinction of a peculiar disorder different from those which had been already named and classified, and the result in all these accordingly is the same, that with some, the case is considered as paralysis, and in others, as dropsy, and that as far as can be discovered there is no peculiar name or description applicable to beriberi as a distinct disease, in those parts of India where it prevails. It appears fortunate however, that the usual theories of the above symptoms, or other circumstances should have led to a treatment, which is found useful in this disease, and accordingly European practitioners have been induced to adopt some portion of the native practice and with advantage, although perhaps without being fully aware to what part of the treatment the beneficial effects were to be ascribed. Of the natives' opinions in Ceylon and the eastern islands where beriberi exists, no account has as yet been given, but there appears no reason to believe that medical learning is more advanced in those countries than on the continent of India. Messrs. Macdonnell and Geddes.

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and irregular pulsation in the cardiac region, and the face and hands are puffy and œdematous. The patient is often found dead in bed or sinks after several fainting fits or throbbings at the heart; or the œdema rapidly increases and extends up the trunk, violent dyspnœa and inability to lie down in bed comes on, with anxiety, cold sweats, cold extremities, rapid feeble pulse, urgent thirst and partial suppression of urine.<sup>2</sup> At the commencement the urine is always scanty, of a deep red colour without cloud or sediment and possessing very peculiar properties; in some old cases it becomes copious, turbid, and pale with a large white deposit, and is passed with pain, from an irritable bladder. The stomach is irritable in many bad cases, and pain and tenderness in the epigastrium is sometimes complained of; there is in a few, pain in the abdomen, or a sense of heat is diffused over it and the chest. Effusion takes place into the chest and more rarely into the abdomen, and there are now and then some signs of inflammation of the pleura or bronchi. In the early stage, the pulse may be full hard and frequent or little altered; when the face is puffy and there is weight and oppression at the præcordia it is quick, often irregular and usually small, although it is occasionally strong.

Various dyspeptic symptoms occur, the bowels are often costive, the stools green and variously disordered and the eyes are often tinged yellow. The skin is rather cold, unless there is pyrexia which is often present in the evening. The disease

<sup>2</sup> Lividity of the lips is only observed when the dyspnœa is extreme. Restlessness is an important but not very common idiopathic symptom. As in many diseases of the nerves there is a tendency to intermission of the painful symptoms. *Original note.*

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*Prevalence of Beriberi.*

is sometimes fatal in a few hours, but is often chronic, and in these, the patient is liable to sudden death, to rapid aggravation of the symptoms, or supervention of new and more formidable ones, by which he is soon carried off; and if he survives these, he may live for a long time bedridden, dropsical, and a true paralytic.<sup>3</sup>

*Extent to which Beriberi prevails in the Circars.*

The general abstract returns of the Northern Division afford valuable information regarding the prevalence of this disease; the influence of residence, season and situation; and forcibly point out its great importance in relation to the most fatal diseases.

<sup>3</sup> Although beriberi may with practical advantage be divided into a sthenic and asthenic form, I trust that it will appear in the sequel, that there are strong reasons for avoiding making a division of the symptoms in this stage of the enquiry and with our present knowledge. The following extracts will illustrate this imperfect description.

Extract from the 1st half yearly report of 1823 of the 1st Battalion 17th Regiment Native Infantry stationed at Masulipatam, by Assistant Surgeon A. Campbell.

“Two men died of beriberi. One of them was admitted with ulcers on his feet, and was taken ill of beriberi, after being some time in hospital, which is the reason that his death is placed under the head of ulcers. His complaint commenced with thirst, lassitude, dyspnoea, slight swelling all over his body particularly of his legs which pitted on pressure, his tongue was white, pulse 100 pretty strong but intermitting, his lower extremities were affected with palsy or loss of voluntary motion; and he complained of a heaviness all over him. Those symptoms became severe, particularly the difficulty of breathing; and he died the day after he was seized. His death appeared to proceed immediately, from the action of the lungs and heart being impeded in consequence of effusion. On being taken ill 16 ounces of blood were abstracted, and a large blister applied to his chest; calomel and squills united given in pretty large and frequently repeated doses, and purgatives administered occasionally; but I must say with little or no apparent benefit, indeed, I am not acquainted with any disease unless perhaps cholera, over which medicine appears to have so little control, or to exert so little of a beneficial influence.”

Extract from the second half yearly report of 1825 of the 37th Regiment Native Infantry stationed at Masulipatam, by Assistant Surgeon George Pearse M. D.

“The only remaining casualty which I have to notice is the death of a sepoy belonging to the Grenadier company, a remarkably stout man, who was admitted into hospital on the morning of the 21st October, complaining of urgent dyspnoea, total inability to move his body or limbs, which as well as his face were much swollen, with a sensation of fulness and tightness of the skin, pulse 90, full, and firm: no sickness at stomach or complaint of pain in any part of the body. Said he went to bed quite well last evening after having eaten a hearty supper of rice as usual, and this morning early,



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Those of the 2d half year of 1826 are less instructive, in consequence of the name "Beriberi" having been seldom used, the disease being classed under the heads of dropsy, rheumatism, or palsy, agreeably to the orders then in force requiring the use of the names in Cullen's nosology. Still some valuable information may be gleaned.

"was suddenly seized with the present symptoms. 16 oz. of blood were immediately taken from his arm, and a dose of pulv. jalap. comp. ʒi administered, which produced several fluid evacuations during the day; towards evening the dyspnœa was much diminished, and two pills consisting of calomel. gr. ij, pulv. scillæ gr. iij, were ordered; (to be repeated twice a day).— During the following night difficulty of breathing again returned and continued till morning, when he expired rather suddenly, about 24 hours after the commencement of the attack."

Extract from the 2d half yearly report of 1824 of the 11th Regiment Native Infantry stationed at Vizianagram, by Assistant Surgeon George Rose.

"The stout and healthy seem to be equally susceptible of it (beriberi) as those who have suffered from disease or dissipated habits and the rapidity of its progress is somewhat singular. A numbness about the ancles is the first symptom, which is generally thought nothing of till the 2d or 3d day, when the patient finds he is unable to walk or even stand without assistance, this is followed by an œdematous swelling and leucophlegmatic countenance, the pulse is feeble, the skin cold, the urine scanty, and the person sometimes as soon as the 7th or 8th day is suddenly seized with oppression at the præcordia and dyspnœa and carried off. I have never in any instance seen it attended with pain and seldom with swelling in any part of the trunk. The mode of treatment which I have followed consists in giving small doses of the hydrarg. submuriat. combined with the pulv. scillæ maritimæ 3 or 4 times a day, in conjunction with other diuretics, frictions, blisters, &c. but in most cases which have occurred, the progress of the disease seemed to be very little affected by any remedy, and in the few which appeared to recover, relapses took place soon after and proved fatal."

Extract from Dr. Pearce's Essay.

"A man who has been ill a few hours with febrile symptoms under which he may still labour, is brought into hospital by his friends, who perhaps state that he was perfectly well the day before, and that after having had a febrile attack his feet became swollen, and that the œdema extended quickly over the body, limbs, face, and even to the scalp. The pulse as in the first variety mentioned is strong and vibrating, but fuller, beating from 100 to 130 in a minute, the eyes and tongue are exsanguineous, the latter clean and moist, and the countenance leucophlegmatic. The peculiar circumstances, which taken with its being of a more urgent form, and which appear to me to constitute this as a distinct variety of beriberi, are the patient being altogether free from pain, numbness or paralysis of the limbs, and that there is a certain hurriedness of manner, and feeling of anxiety about the præcordia, causing restlessness, and apparent uneasiness, although if questioned there will be no particular complaint made either of pain or uneasiness of any kind. If the system be not speedily relieved by active depletion, dyspnœa arising from effusion into the thorax rapidly follows, and death more or less suddenly is the certain consequence. The urine is high coloured and scanty, but there is little or no complaint of derangement of the other functions."

"Should a case of this description take a favourable turn, and the arterial excitement and other urgent symptoms become moderated, a slight degree

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*Prevalence of Beriberi.*

In the jail at Masulipatam, two brothers from Rajahmundry were admitted with beriberi and both died, being one third of the total deaths; and in the prison at Chicacole where there were in all 11 deaths, 5 were of this disease viz.

Diseases.	Admitted.	Discharged.	Died.	Remaining.
Dropsy.....	6	1	2	3
Palsy.....	7	2	3	2
Total.	13	3	5	5

These cases I know from personal observation to

“of numbness, known by the peculiarity in the manner of walking, may then be discernible, though no complaint is made by the patient of such an affection.”

Extracts from the Essay of Messrs. W. Geddes and Macdonell.

“Those who have once had the disease are extremely subject to a relapse. Sometimes this takes place, when the symptoms of the first attack had not entirely been removed; numbness of the limbs, and the tottering in the gait continuing on the patient and inducing the medical attendant of the individual in hospital, to place him on the convalescent list for the advantage of air and exercise. In these circumstances a return of the former symptoms, or the accession of a new form of the disease is after a certain period not unusual, and the patient is frequently brought again to hospital, in a state which no medical means can relieve. At other times, the symptoms become entirely removed and continue so for one or more years, when the disease recurs, most generally under a new and that an aggravated form, for it is to be remarked, that each succeeding relapse seems to present an increase of severity and this often under another variety of the disease.”

\* \* \* \* \*

“Shaik Hoosan, sepoy, ætat. 27. Admitted 27th December, 1828. Had been affected for 15 days with dropsical swelling in both legs, face rather puffed, no dyspnoea or pain in the chest. Pulse 90, skin cold and damp, bowels costive. Had a purgative of jalap and calomel on this day, and the day following. On the 29th the report is “complained of severe oppression in the chest and dyspnoea since last night. Had this morning much thirst, called for cold drink and expired immediately after he took it.”

“Seethah Ram, ætat. 50, artificer. Admitted 1st November, 1830, 3 p. m. Had been affected for seven days with considerable swelling of the lower limbs, attended with numbness and difficulty of respiration on any exertion. These had been partly removed by native medicines, the swelling having left his limbs about three days before, but the numbness continued and considerable dyspnoea had seized him in the morning of the day he came in. He also vomited his food tinged with bile once or twice. On admission his pulse is not to be felt, his skin cooler than natural, countenance puffed with much anxiety and restlessness, tongue covered with a brown fur and his bowels had been bound for two days. Calomel ʒi was given and a purging enema; in two hours had a dose of jalap and a blister was applied to his chest, but he died at 6 p. m.