

Day of Disease.	Morning Temperature	Evening Temperature.
3	97.2°	98.4°
4	96.2°	96.4°
5	96°	97.2°
6	98.8°	98°
7	97.4°	97.2°
8	97.2°	98°
9	.....	98.2°
10	99°	98.2°
11	99°	98°
12	97.3°	98°
13	97°	98.2°
14	97°	96.3°
15	97°	98.2°
16	97°	98
17	97.2°	97
18	97°	.....

This last example is one out of many, and shows the beneficial effect obtained by early treatment before specific inflammatory action is established. In this case the pneumonia was resolved in the stage of arterial active congestion, but in the former it was not so resolved for that ran on to hepatization. It may be argued that a case cannot be pneumonia unless all the stages are present. This seems to me absurd, because if the stage of grey hepatization has to be reached before recovery results, I fear there would be but few recoveries. And there is no reason why resolution should not occur in the first as in the second, or third and fourth stages. However to reconcile any such doubters "Pneumonia has always been described as inflammation of the substance of the lungs. I venture to doubt this conclusion, and to suggest that pneumonia may be one thing, and inflammation of the pulmonary tissue another."\* From which it is to be inferred that, until there is an escape of blood elements, inflammation of the pulmonary tissue has not yet taken place. Dr. Heale further says "that a state of cirrhosis, either partial or general, fulfils much more nearly the condition of inflammation of the substance of the lungs than does that of pneumonia."

The following table gives the numbers of cases of pneumonia for four years, and their average stay in hospital up to the time when they were fit for a certain amount of duty, not convalescent except in a limited few. When it is remembered that patients are turned out of civil hospitals at a far earlier period than they are out of military hospitals and are admitted at a much later and in a far worse stage of disease in the former than in the latter, I think, the average duration of time will compare favourably and closely with the averages given by Dr. Waters;† and is besides an additional proof of the local origin of the malaise we have been considering.

DISEASES.	Number of cases.	Average duration in hospital.	Longest day in hospital.	Shortest day in hospital.	Died.	YEAR.
Pneumonia	30	26.33	54	6	...	1871
Ditto	69	22.4	93	6	3	1872
Ditto	34	19.55	59	9	..	1873
Ditto	18	23.22	65	8	...	1874

Rawal Meerut, Pindi.

Excluding the case of 65 days in 1874 the average for that year would have been but 20.82 days in hospital. The above

figures show that pneumonia is not so fatal as the Blue Book would appear to shew. Sir T. Watson gives 10 days as the average duration of a case of pneumonia. Dr. Waters out of 41 cases has an average of 11½ days from the onset of disease to the time of convalescence. I have, in the above table, only given the average length of time in hospital before it was prudent to allow a patient to return to barrack life with its temptations, and, except in a very few instances, means a return to duty.

Thus far then, I have endeavoured to shew how, through indirect injury to the sensorium, lung disease may be set up without our knowing any thing about it. That in India the powerful effect of solar influence acting on the sensorium, through probably the olfactory, optic and auditory nerves, predisposes the lungs to congestion from any exciting cause, such as undue cooling of the body by punkahs during sleep, spirit by producing an over-excited action of the right ventricle, tobacco by diminishing the hearts' power, &c., &c. That the physical signs are the only means whereby this condition can be satisfactorily determined, although the hollowness of the cheeks and the blueness of the lips should be of themselves almost sufficient to declare the disorder. That the disorder is the first stage of pneumonia viz., arterial acute active congestion before blood elements have been poured out: it is not marked by increase of pulse or respiration, nor is there any distinctive rise in temperature: there is rarely any cough or sputa, but duskiness of complexion and headache are usually prominent symptoms. That counter-irritation with rest in bed has in our hands proved the best and most beneficial method of treatment.

I have but to add, in conclusion, that if any one will diligently enter on this field of physical exploration, keeping the few crude facts I have brought together in mind, he will find that in time it will amply repay all his trouble, and he will obtain data of definite precision.

RAWAL PINDI, June 1875.

INDIAN MEDICINAL PLANTS.

PART IV.

By Surgeon B. EVERS, Civil Surgeon, Seoni.

(Continued from page 155.)

*Soymida febrifuga*.—N. O. Meliaceae.

The plant is commonly known as "Bastard Cedar" and "Indian Red-wood" in English, and as "Rohun" in the Vernacular. It is common in Central India. The wood is of a red colour, strong, heavy and durable and well adapted for building purposes and for making articles of furniture; it is not readily attacked by white ants. The bark, according to Ainslie, is "of a dingy red colour, and has a pleasant bitter taste, with a slight degree of austeriy." (A decoction of the bark dyes brown of various shades). Both the decoction and infusion of the bark are used in medicine; but the tincture, according to the authority named, is said to be the most valuable. The Baidis employ the bark in the treatment of malarial fevers, thus; six mashas (equivalent to a drachm and half) of the bark are bruised and administered in combination with sugar or syrup, two or three times a day. It is considered by some as a good substitute for cinchona bark. Sir W. O'Shaughnessy, however, is of opinion that it is of little use "in the treatment of obstinate or dangerous cases," but that "like all other astringent tonics," it will often succeed in mild cases of ague. He recommends it to be given in the form of extract. Attempts have been made to obtain an alkaloid principle from the bark, but without success. The spicular crystals obtained when the bark was subjected to processes similar to those for obtaining sulphate of quinia, were found to be simply crystals of sulphate of lime. It is some

\* Dr. J. N. Heale, *Lancet*, November 1869.  
 † Dr. Waters, *Lancet* for November 1869.

times adulterated with nux vomica bark, but from this it is distinguished by the application of nitric acid; the acid when applied to the inner surface of soymida bark "does not cause a bright red stain." Waring recommends it as a good substitute for oak-bark when astringent gargles, injections, &c., are required. I have employed the bark in the treatment of ague, but cannot report favourably of it. Its action appears to me to be more that of a bitter tonic than a febrifuge. In overdose it is said to cause derangement of the nervous system, "occasioning vertigo and stupor." The bitter principle of the bark, according to Broughton, consist of an almost colourless resinous matter sparingly soluble in water, "but more so in alcohol, ether or benzol." It does not combine with acids or bases; it contains an abundance of tannic acid.

*Anthocephalus cadamba*.—N. O. Rubiaceæ: Vernacular, Kaddam.

The plant is common in Bengal and the North-West Provinces, seldom seen in the Central Provinces. It is said to be indigenous to Assam. "The flowers are offered in Hindu shrines; the fruit is eaten." I have employed a decoction of the bark (prepared in the same way as decoction of cinchona) in the treatment of ague, but cannot certify to its efficacy as a febrifuge. In several trials I gave it, it appeared to me to act simply as a tonic.

*Euphorbia antiquorum*.—N. O. Euphorbiacæ.

According to Ainslie, "the milky juice got by wounding the branches, is extremely corrosive, but when boiled with a small quantity of gingilie oil (til oil) the native practitioners use it as an external application in rheumatic affections;" it is said also to deaden the pain of tooth-ache. When administered internally it acts as a cathartic, and is considered to be specially useful "in those cases of obstinate constipation which are often troublesome when there is an enlargement and induration of the spleen or liver." The fresh juice is highly acrid. The Baidis and Hakeems seldom use it fresh. For ordinary blistering purposes, it is combined with croton-oil, thus, the juice is mixed with bruised croton-seeds, saffron, and butter: this mass is enveloped in three or more folds of calico, and fastened to the end of a long iron hook; the mass is then ignited and held over some vessel, when a dark oily liquid is obtained; this liquid is said to be powerfully caustic. As a purgative, the juice is administered thus: Two or three drops of the fresh juice are mixed with about half a drachm of roasted chenna (Bengal gram) powder, and a little ghee and sugar; this dose is considered sufficient to produce 8 or 10 copious evacuations. The inspissated juice was formerly held in great repute as an anti-syphilitic, and indeed Dr. J. Shortt reports that he has found it an excellent alternative in these cases, in doses of five grains night and morning. For a long time it was supposed that this plant was the source of the euphorbia of the shops, but this has been disproved by Hamilton (Linn. Trans. Vol. XIV) and Royle (Illust., Vol. I, p. 328). Fluckigee and Hunbury refer euphorbia to the *Euphorbia resinifera*. A plaster composed of the bruised roots and assafœtida is applied to the stomachs of children suffering from worms. The root bark is said to be purgative. The resin in combination with cantharides forms gout-plaster. The *Euphorbium tirucalli* and the *E. nivulia* also yield an acrid milky juice. All these plants are of a highly poisonous character, and great care therefore is necessary in employing them medicinally.

*Zizyphus Jujuba*.—N. O. Rhamnæ: Vernacular, Bair.

A very common plant in the forests of Central and South India. The bark is used as a dye, and also for tanning; the root is considered febrifuge by the natives, and oil is obtained from the kernels. O'Shaughnessy states that "the bark is used in the Moluccas, as a remedy for diarrhœa; the root with some warm seeds in infusion, in fever. The lozenges, and the thickened mucilage called *jujubes* by the confectioners, are prepared from this, and the *Z. Vulgaris*." Pieces of the root, threaded into a necklace, are worn by the natives during

attacks of ague. I have tried the root as a febrifuge, but find it slow in its action. In 17 cases treated with a decoction of the root, the drug did not check the paroxysms until about the seventh or eighth day, I believe it acts more as a tonic than an antiperiodic.

SEONI, C. P., 10th August 1875.

## REPORT OF AN OUTBREAK OF CHOLERA IN THE THOMASON CIVIL ENGINEERING COLLEGE, ROORKEE.\*

By Surgeon-Major A. ETESON, *Bengal Sappers and Miners*.

(Continued from page 241.)

### SECTION II.—The outbreak.

At 6 A.M. on the morning of Friday, the 14th May, I received a note, from Hospital Assistant Baboolall, that a Corporal Williams, 39th Regiment, was ill with vomiting, purging, cramps and a weak pulse. I went at once to see him in his quarters in the barrack-square, and found him in cholera collapse. He told me that he had been ill since 9 P.M. of the 13th, at first only with diarrhœa; that he had never suspected cholera, and had not reported sick thinking it was only diarrhœa, which would pass off. I may add that his comrade student, sleeping in the same room, knew nothing of Williams' attack till the morning. At the time the hospital assistant first saw him he was cold, thready pulse, dusky features, whispering voice, and restless, calling continually for cold water; vomiting and purging of the typical nature. Almost at the same time a young Civilian, Mr. O'Den, a student of the same department, and living in the adjoining barrack, was suffering in the early stage of sickness and purging only. I, at once, reported these cases to the Principal, and asked that the infected barracks, Nos. 5 and 6, should be vacated, and requisitions sent in to the D.P.W. to lime-wash and purify these, after disinfection by sulphurous acid by me. I also asked that the soldier should be removed, if possible, to some military hospital for treatment (of course by me), as there were no hospital conveniences, nor attendants, nor necessary appliances in the college for such serious cases.

It will be convenient to mention in this place that the Thomason Civil Engineering College has never had either a hospital or any establishment for in-patients. Since its foundation there has only existed a dispensary, in subordinate charge of a hospital assistant, to which the medical officer made daily visits, and prescribed for out-patients. All of the civilian classes were attendéd in their own quarters; and, in the event of any soldier being seriously ill, an application was forwarded to the officer commanding the station to permit him to be admitted into one or other of the European regimental hospitals for treatment by the medical officer of the college. In March 1870, I had had experience of the ill effects to individuals of this system. A very severe malarious ague was common in Roorkee; many of the college students took it, and I saw that, as a rule, they were reluctant to incur the long interruption to study which admission into a regimental hospital involved. I thought, too, that a hospital assistant was not the proper person to be in subordinate medical charge of an institution with so many Europeans of all classes, especially women and children, connected with it; and that it was more according to established usage to have an assistant apothecary.

I therefore wrote a letter to the Principal (Colonel Medley, R. E.) asking him to move the Government in favor of such