

ciple, however, after stitching the testicle to the bottom of the scrotum, and while the assistant held it in that position, I passed a catgut stitch through the skin at the junction of the scrotum and thigh, through the cord just below the external ring and through the skin on the other side of the scrotum, with the view of, so to speak, anchoring the testicle in the scrotum. The wound healed by first intention, but the ultimate result has been that though the testicle is considerably below the external ring, it is not in its proper position in the scrotum.

Before operating on the left side, I therefore had the wire frame described above constructed, and on April 2nd I operated on the left side in the manner which I have mentioned. The dressing was changed next day, and everything was looking well; patient comfortable. It was again changed on the 6th, and the catgut tightened as much as possible; the wound had healed. On the 13th the stitch was removed, the apparatus left off, and a small collodion dressing was fixed over the puncture through which the stitch had passed. The testicle hardly receded at all when the stitch was divided, and there was a good deal of thickening about the cord and the external ring, which no doubt helped to keep things in position. The patient was allowed to get up on the 15th, and went home on April 22nd. He was exhibited at the Medical Society about ten months later, when the left testicle occupied its normal position in the scrotum.

### AN ACCOUNT OF AN OBSCURE OUTBREAK OF DENGUE

OCCURRING ON BOARD H.M.S. *AGAMEMNON* WHILE  
STATIONED AT ZANZIBAR BETWEEN NOVEMBER,  
1888, AND SEPTEMBER, 1889.

By CHARLES C. GODDING,  
Staff-Surgeon, Royal Navy.

Communicated by the DIRECTOR-GENERAL OF THE MEDICAL  
DEPARTMENT, ROYAL NAVY.]

AN outbreak of dengue occurred in Zanzibar in 1870. It is stated to have been of a severe type, and which, commencing at Tamoo, worked south to Mombassa and Zanzibar. The disease is very common at Aden. There had been an epidemic there, I believe, in 1887-1888, and which had extended to Egypt. In tracing back the outbreak in this ship, the first case was an officer who had been staying for a few days at Aden, and had evidently contracted the disease there.

*History of Outbreak.*—On leaving Aden, November 1st, 1888, the crew were in a very healthy state, 8 on sick list out of a crew of 390, and these cases of a trivial character.

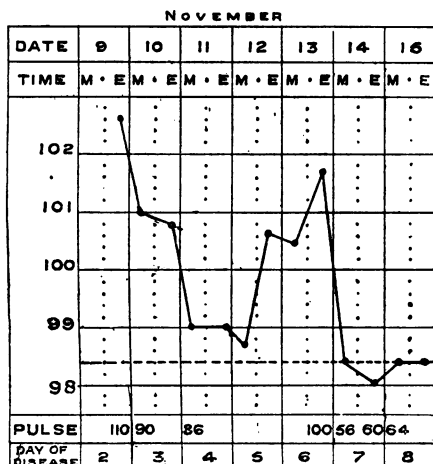


Diagram 1.

On November 9th, Commander M., officer taking passage and referred to above, came under treatment. Stated that on November 3rd he had suffered from aching pains in his legs, and had been poorly since.

On evening of 8th he felt very unwell, had cold chills, and was

restless all night, but this morning (9th) he had bad headache, nausea, *malaise*, and severe pains on inner side of thighs; constipation.

November 10th. Rigors last evening, followed by profuse sweating during the night; pains between shoulders, tongue white, and conjunctivæ yellowish.

November 11th. Feels much better, but there is still some nausea and headache. The general muscular pains have gone; tongue cleaning; profuse sweating all night.

November 12th. Much better in the morning, but during the afternoon severe headache returned, with much weakness and *malaise*.

November 13th. Severe headache; face flushed; anorexia; general pains, debility, and *malaise*; bowels constipated. Left this ship at 5 p.m. On November 14th, skin moist, tongue slightly creamy; slept well and convalesced quickly, and returned to duty on November 21st. (See Diagram 1.)

This case was the first of its kind, and typical of all the cases which followed, both in symptoms and temperature. Attention was only called to it in tracing back the disease to its origin, and, at the time of its occurrence, it was diagnosed as a severe case of simple continued fever. In one or two doubtful cases a fleeting blush followed profuse sweating; but, until July 8th, 1889, a period of seven months, no case with an unmistakable rash had appeared, though during this period 118 cases and 57 milder cases had occurred. The 118 cases were diagnosed as a severe form of simple continued fever, closely resembling dengue, peculiar to the station, and the thermometry of which had not been described, while the 57 milder cases were diagnosed as ordinary cases of febricula. The cases were all characterised by sudden onset, intense frontal headache, giddiness and great heaviness, retching and bilious vomiting, conjunctivæ yellowish, bowels frequently purged but sometimes constipated, marked anorexia, tongue yellow and coated, rigors and severe aching pains about body and loins. Partial defervescence and comparative comfort on third and fourth days, then considerable increase of fever to fastigium and defervescence by crisis with profuse sweating, which continued for two or three days in decreasing quantities. Great debility followed, and relapses in several cases.

*Difficulty of Diagnosis.*—A similar type of disease is very common on the East Indies Station. In 1885, H.M.S. *Dragon* had 128 cases (simple continued fever) out of a crew of 156, the bulk of the cases occurring in April and May; average 4.5 days' sickness. H.M.S. *Turquoise*, 75 cases; average 7.5 days' sickness. H.M.S. *Briton*, 65 cases; average, a little over 7 days' sickness. In the cases occurring in the *Agamemnon*, though many of the symptoms closely resembled those of dengue, there was a complete absence of eruption, no pain and swellings of joints, no patient convalescing for a few days and then having a true relapse, nor did the disease assume a decidedly epidemic character till the end of June, when the cases occurred in batches with precisely the same general symptoms, but more severe lumbar pains. Symptoms were grouped as follows:—1. Sudden onset, severe headache, generally frontal; bad pains in loins, *malaise*, fever and characteristic yellow tongue. 2. Diminution of fever and comparative comfort for two days. 3. Increase of fever, headache, lumbar and general muscular pains, with fall of temperature by crisis and profuse sweats. 4. Convalescence rapid, but marked by considerable debility. 5. Temperature charts closely resemble the one already given. Sudden rise, considerable fall on third and fourth days, then a rise to the fastigium and descent by crisis; the symptoms accompanying the second rise were always severe, the headache, pains, *malaise*, and mental depression returning in a most trying manner.

This descent of temperature by crisis was not universal. In a few cases the descent was by lysis, and this generally occurred in the most severe cases with long convalescence.

November 16th, 1887. Dr. F. M. Sandwith gives Diagram 2 as a chart of a typical case in outbreak in Egypt:—Eruption: measles eruption afternoon of 18th, third day. Temperatures almost exactly the reverse of the cases occurring in this ship. Pulse bears some resemblance. Convalescence on twentieth day.

July 12th, 1889. Diagram 3 is typical of most of the cases having an eruption in this ship. Patient had also swelling of parotids, and slight salivation. Eruption: mixed, scarlatinial, and finely papular on morning of third day, and faded on sixth day. Temperature and pulse bearing close resemblance to the first case which occurred on board. Convalescence on eighth day. Duty on twelfth day.

The patient who first presented a decided eruption was under treatment on July 4th, and it was not till the seventh day of sickness that he was covered with a profuse, finely papular eruption, like prickly heat, and this lasted three days. After this, about 37 per cent. of the patients presented the eruption either at the beginning, course, or termination of the attack. Sometimes there were both initial and terminal eruptions, and there was no further question but that the disease was dengue.

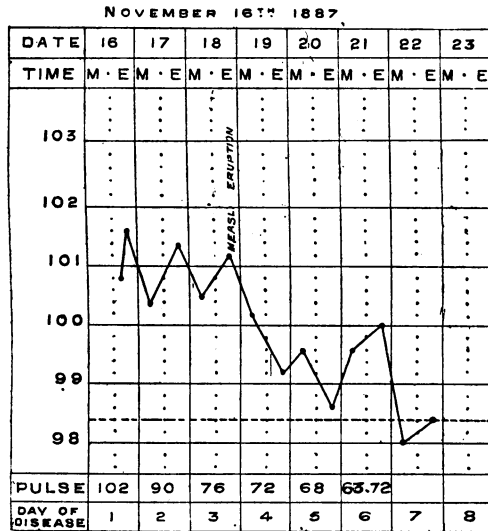


Diagram 2.

Number of Cases under Treatment after Diagnosis was Established.—In July, 130 cases; August, 79; September, 19; October, 7; total, 235; and these cases give an average of exactly seven days' sickness.

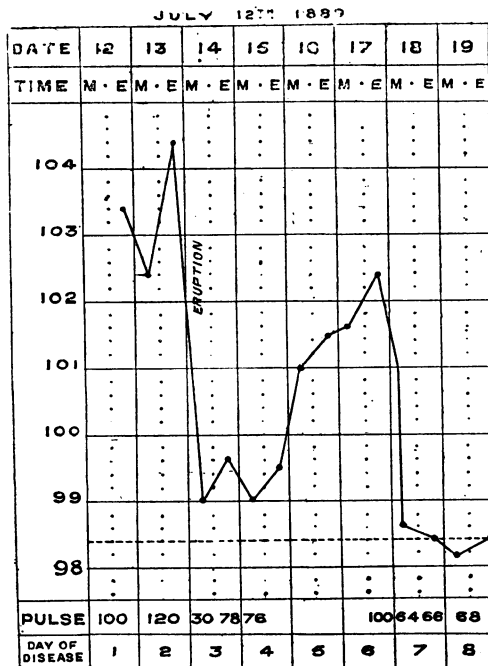


Diagram 3.

Average Number of Crew.—From November, 1888, to October, 1889, the average number of the crew was 406.

Total Number of Cases of Dengue, 326 fresh cases.

Percentage of crew attacked is therefore almost exactly four-fifths. This result is very nearly arrived at in another way,

namely: 10 officers and 90 men escaped having the disease, or rather more than three-fourths of the crew attacked.

Percentage of cases in Egypt given by Dr. Sandwith as four-fifths of population.

**Incubation.**—1. First case would put this at 8 or 9 days at least. 2. Prisoners received on board and kept separated from the crew as far as possible had the disease on thirteenth day. 3. Supernumeraries received on board and living with the crew, three were down with the disease in 6½ and 7 days. So the period varied from 6½ to 9 days under conditions favourable to the disease, but it is evidently a very variable quantity. Sandwith gives it at from 2 to 8 days; Frayer says in *Quain's Dictionary* "The period of incubation is probably from 5 to 6 days; it may be a day or two more or less in some cases"; Roberts, 1 to 10 days. The period apparently depends greatly on the character of the epidemic.

**Relapses and Subsequent Attacks.**—One case only with two relapses, and in the primary attack and first relapse there were eruptions; 18 cases of undoubted second attacks, and 3 patients with third attacks.

ANALYSIS OF SYMPTOMS.

**Invasion** nearly always sudden. Patients rarely kept about longer than twenty-four to forty hours.

**Face.**—Eyes often suffused and face flushed. Sudden enlargement of face and salivary glands noticed in 2 cases only on second morning of sickness, slight salivation in one of these cases only.

**Eruption.**—Thirty-seven per cent. of the cases occurring in July, August, September, and October had eruptions, but of the total number of cases the percentage having eruptions was barely 25. The eruption, therefore, was by no means general, even during the height of the outbreak, and, as I have already stated, the disease had existed on board for seven months, 118 cases had occurred, and though carefully looked for, the eruption was never found. The eruption was extremely varied and irregular in its (1) advent, (2) general appearance, and (3) duration.

**Advent.**—In some cases it came on first day and faded quickly, lasting a few hours only. In other cases it lasted during the whole attack. It appeared at any time between the second and seventh days, in many cases with a falling temperature and during convalescence, while in others, but more rarely, there were two eruptions, the first appearing on the first day, fading, and returning copiously on the fourth or fifth day with the fastigium.

**Appearance.**—1. Scarlatinal, which generally faded quickly. 2. Papular, from very fine to coarse red papules. 3. Measly, in large crescentic patches and lasting a long time. 4. Large blotches of white and red, itchy and troublesome, like urticaria. 5. Mottling of skin of trunk. 6. Petechial, seen in two cases only, and in both cases the petechiae appeared after administration of large doses of soda salicyl. 7. Vesicular in two cases. 8. Pustular in one. Eruptions often mixed and frequently very itchy and troublesome.

**Duration** very irregular, lasting from a few hours to several days, and in one case lasting more than fourteen days.

**Desquamation** noticed in a few cases, and in one quite profusely.

**Sore throat** often complained of. The pains generally appeared to be entirely muscular, produced by and felt only during deglutition.

**Cough.**—In many cases there was a dry, noisy cough, no chest complication present, and disappearing during convalescence.

**Temperature and Pulse.**—Sudden rise of temperature on first day, with a quick, soft pulse of 100 to 120. During the first fall of temperature the pulse fell also in a remarkable manner, increased again with the rise, and fell again noticeably with the final defervescence. A full and soft pulse of 50 or 60 was often noticed.

**Digestive system** greatly disordered. Tongue characteristic, "yellow, coated, and slimy;" often peculiarly tremulous, as though the patient failed to control it after protrusion. Sudden and complete failure of appetite. Nausea a constant symptom, and early in the outbreak bilious vomiting. Diarrhoea common at first, but constipation the rule subsequently. No splenic or hepatic enlargements. Abdominal muscles frequently painful, and complained of as "pain in belly."

**Headache** an early and constant symptom, nearly always frontal, and associated with deep-seated pains in eyeballs. Headache severe and often intense. Giddiness nearly always complained of, and the men described it as a "giddy headache."

*Lumbar and other Pains.*—Backache an early and almost constant symptom, generally confined to the loins, and more rarely running up the spine. General muscular pains, described as a "bruised feeling all over," very common. Pains in joints rare, and in two or three cases only were the small joints noted as having been painful. No joint enlargements noted. Pains in bones very rarely complained of.

*Delirium* in one case only, and transient, but patients were always very restless and sleepless during the nights of high fever.

*Fainting attacks* in 12 cases, and a "faint feeling" often complained of.

*Epistaxis* occurred in one or two cases only.

*Salivation* slightly in 1 case. Enlargement of salivary glands in 2 cases.

*Enlargement of lymphatic glands (inguinal)* in a few cases only.

*Orchitis* none; nor pain ever complained of in these glands.

*Duration of Disease.*—Four to sixteen days; average, seven days.

*Diagnosis.*—Dengue liable to be confounded with rheumatism, scarlatina, malaria, and simple continued fever. During an outbreak in 1887 at Bombay the disease is stated to have been variously spoken of as "rötheln," "epidemic rose rash," and "simple continued fever." Dr. Sandwith speaks of the difficulty at Cairo of distinguishing dengue from scarlatina, and alludes to the liability of confounding the disease with simple continued fever, and says that the contagiousness and appearance of the eruption in dengue will distinguish it. The experience of the outbreak in this ship proves that both the contagiousness and eruption may be absent to a great extent; in fact, the number of cases fluctuated very much. Thus, in February, 1889, there were 22 cases; in March, 12; in April, 8; in May, 16; in June, 26; and in July, 130 cases, etc. Eruption completely absent for first seven months, and the other difficulties in the way of diagnosis on board here were the absence of sore throat and catarrh, absence of pains and swellings of joints, the peculiar thermometry of the disease, and finally the rapidity of convalescence and absence of sequelæ.

*Variety.*—I feel convinced that this outbreak was one of the many varieties under which this disease shows itself, and, as in this outbreak, often appears without an eruption, and so escapes a true diagnosis.

*Mortality.*—Nil.

*Invalidings.*—In no uncomplicated case.

#### TREATMENT.

*Vomiting and retching* easily controlled by sinapism or fomentation to pit of stomach; patient kept recumbent and three or four grains of calomel given by mouth. Bowels moved, if necessary, by enema.

*Antipyrin* failed to stop a rising temperature, but if given at the height hastened defervescence, promoted sweating and also at times relieved the severe headaches.

*Aconite* tincture used. I was much disappointed with this drug. It was given in various ways, as directed, but it failed to promote diaphoresis, nor was the headache relieved, and the temperature and pulse continued to rise, though the patients were under the influence of the drug.

*Belladonna* extract given in half-grain doses two or three times daily was of very decided value in relieving the distressing headache and promoting the action of the bowels.

*Quinine and sodæ salicylate* given in combination is a most powerful antipyretic. A standard of quinine, grs. x, and sodæ sal. grs. xv; increased or diminished by half, and given twice or thrice daily, is a very valuable remedy both in this and remittent fever. It is powerfully antipyretic, promotes diaphoresis, eases muscular pains and promotes the action of the liver.

*Salines and diaphoretics* given while the fever was running its ordinary course, and in combination with either belladonna or aconite. Belladonna preferred.

*Mineral acids and quinine* given during convalescence only. Quinine is useless in my opinion, and even harmful in the acute stages of the disease.

*Arsenic* with quassia, useful as a tonic in convalescence.

*Conclusion.*—In conclusion I would again call attention to Dr. Sandwith's Report. He and the army surgeons at Cairo were quite at variance regarding the diagnosis of the outbreak there; the former calling the disease dengue, and the latter maintaining it to be scarlatina, as it differed so materially from the types of

dengue seen in India. In "Health of Navy" for 1887 it is reported that even at Bombay, a habitat of the disease, an outbreak was variously described as "rötheln," "rose rash," and "simple continued fever." On board here the material point of difference between the cases at beginning and middle of outbreak was the absence or presence of the eruption, but then again, even during the height of the outbreak, the eruption was more frequently absent than present. Further, on the East Indies Station, there is a disease which closely resembles, or is a type of dengue, as regards general symptoms, but with complete absence of eruption and sequelæ. I venture to submit the following propositions, which possibly may not be deemed very extravagant:—

1. That dengue is a disease not yet thoroughly understood.

2. That it varies very much according to locality and intensity of poison.

3. That there is a disease closely allied to but differing from dengue in absence of eruption and sequelæ.

My own convictions are conveyed by propositions 1 and 2. *Postscript.*—Since writing the above, H. M. S. *Agamemnon* has returned to Malta, where influenza has been rife. The crew of this ship have suffered much less up to the present than any of the other ships. Has the dengue protected us? The treatment of influenza has been much the same as in dengue, but the results obtained with belladonna and aconite have differed. Aconite has best relieved the general pains and headache. Belladonna has been most serviceable where the cough has been the prominent symptom.

## INFLUENZA AND PNEUMONIA.

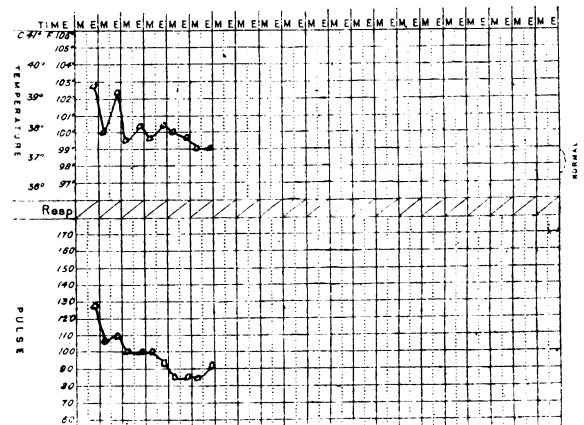
By JOHN HADDON, M.D.,  
Canonie, N.B.

At the present time, when influenza is so prevalent and causing such excitement all over the world, there are some questions one would like to have answered, such as: (1) Does it depend entirely upon climatic influences? (2) Is it infectious? (3) Do sporadic cases occur?

With the view of assisting in the solution of some of these questions, I desire to give an extract from notes of cases of pneumonia written out some years ago. After cases of croupous pneumonia and infectious pneumonia, I had written: "On another occasion I met with four cases in the same house, with more or less pneumonia, which I consider to be due to climatic influences, and called influenza. They may have been due to infection. The first case, T., aged 28, who was in business in Manchester, began on February 26th, 1877; his sister M. began on March 17th; his mother on March 19th; and another sister on April 1st.

CASE I.—T. went about till the eighth day, and the lung was not right till the nineteenth day, there having been a considerable amount of broncho-pneumonia. I give charts of the other cases, with short notes of two.

CASE II.—Mrs. S., aged 50. On March 19th felt sick, giddy, and had a headache. On March 21st began to cough. The cough sounded croupy. At night temperature 102.8°, pulse 128. She had



six grains of quinine. Perspired much. March 22nd (fourth day) still perspires and coughs. Temperature 100°, pulse 108, morning;