THESIS ON
TROPICAL ABSCESSE OF THE LIVER.

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Access of the Liver.

By the term "Access of the Liver", as forming the subject of this paper, I desire to state that my remarks refer to the disease, as it has been seen by me in the Assistant Physician's wards of the main or General Hospital in the Presidency town of Madras, S. India.

My experience of this very serious lesion does not extend beyond the Southern Presidency of India, and hence may arise differences between the views held by me and those of other more experienced and skilled physicians, who have seen and studied the disease in the Northern Presidencies. At the same time, I may be allowed to state, that as holding the important position of Assistant Physician of the main Hospital, in Southern India, with about one hundred beds under my professional care, it has been my good fortune to have every opportunity of studying the disease in the European, Eurasian, and Native communities of the town of Madras (population 400,000). Furthermore, it is my intention in writing of the disease, to exclude any reference to the variety which arises secondarily from "Pyemia", as the cause; and therefore styled "Pyemaciaccess". I have appended to this paper thirteen (13) cases, only a larger number of others, the history of which were more carefully clinically...
clinically recorded, together with a careful register of the pulse and temperature &c, from which many useful facts may be gathered.

Acute inflammation of the liver leading to the formation of an abscess does not appear to be restricted to any class or race of individuals residing in the South of India; and a reference to the clinical cases attached to this paper will show that Europeans, Europeans, and Natives are alike prone to the disease. Persons of any age below 45 are liable to suffer, but more so between the ages of 20 and 40. Military surgeons of the British medical staff find that young soldiers serving in the Tropics are more liable to the disease during the first 2 or 3 years of their service; and Surgeon General Hugh Macpherson is of opinion that while Hepatitis rarely kills soldiers under 20 years of age, it is very fatal between the ages of 25 and 35, but more especially between 30 and 35.

The records of the General Hospital in Madras show that a larger number of cases have been admitted and treated during the last 10 or 12 years than formerly, but this is likely explained by more skilful methods of diagnosis being employed, and more direct attention being given to the disease, by surgeons who endeavour to adopt antiseptic methods of surgery, and who have thus felt greatly confidence in exploring the contents of the thoracic
and abdominal cavities. At the same time, it is the opinion of Dr. G. Harley of London, with whom I thoroughly agree, that hepatic abscesses "everywhere are equally difficult in diagnosis, uncertain in treatment, and fatal in results." Much light has been thrown on the subject, more especially in its etiology, by the rapid strides made relative to the germ theory of disease, and I feel sure that the immediate cause of the lesion, is that of hepatic abscesses in other regions of the body: viz a specific germ, the nature of which must be revealed shortly.

Doctor N. Chevrs in his valuable treatise on the Diseases of India—page 607—states as his opinion—one in which I entirely concur—the following:—

"In India, a marked stage of active general hepatic congestion often precedes the formation of hepatic abscess. It is extremely useful to detect early this preliminary phase of congestion, because when we can watch the patient from the first, and can recognize it, and treat it promptly, as we often do, it is generally within our power to curb the disease-shot avoiding the occurrence of abscess." This acute, acute stage, has often been observed by me.

II. Aetiology:—I have endeavoured to enter more fully into this subject, bringing forward as far as possible the most recent views of well-known authors on the subject of the connection...
connection between "Abscess" and a specific germ, as its cause.

(a). There appears little doubt in the first instance, that Hepatic abscess being more commonly observed in the Tropics than in Temperate climates, Heat or "alternation of heat and cold" must be looked upon as inducing in the individual a strong predisposition to Hepaticis; by the great changes effected on the Hepatic circulation. Congestion of the liver with enlargement of the organ is very commonly observed in the Tropics, and this may ultimately lead to the formation of abscess. If a reference be made to Case 11, (L. P. a Frenchman) into whose history most careful inquiry was made by me, it will be seen, that nothing more than careless exposure to lowered nocturnal temperature on the sea in the Tropics seems to have set up changes in the hepatic circulation which favoured the formation of abscess in that organ. In connexion with this subject, it is highly satisfactory for us to know the connection between sudden exposure to cold, and suppuration; the result of actual experiment on the lower animals, as published in a paper by Dr. Watson Cheyne in the British Medical Journal (March 3, 1888 p. 435). I quote from his article, "As regards cold on the internal parts of the body, some very interesting experiments have been made by Laidlaw. A number of rabbits were shorn of their hair in some way or another. These animals, when kept at a suitable and equable temperature (about 20° C) and..."
well fed remained in good health. But on being taken out of
the warm room and plunged into ice-cold water for some
three minutes, then dried carefully, shaped and warmed
again, they almost always in the course of one or two days
showed albuminuria, increasing at a later period often to a
great extent, and accompanied by the presence of hyaline cylinders
in the urine; at the same time the rectal temperature was as much
as 1.5°C above the normal. These animals often recovered from
the albuminuria but were again similarly affected when
again exposed to cold. On microscopic examination of the
organs, they were seen to be in half cases or terms, a state
of interstitial inflammation; the organs chiefly affected being
the kidneys and liver but also in some cases the lungs,
muscular tissue, the heart, and the spleen of the kidneys. In
the organs it was seen that there was a degeneration of the
interstitial tissues, and the blood vessels, especially the lungs
and liver were often enormously dilated, the arteries filled
with thrombi, and large numbers of leukocytes in the tissues in
the neighbourhood of the veins. The effect of cold on these
experiments seems in fact to be the production of what is
probably a weak tissue, and one therefore liable to attacks
from organisms.

(b). One can speak with much confidence with regard to so-called
malarial fevers, and malarial depigmentation, as being pre-
disposing causes of hepatic abscess. I have a common experience
with
with Indian medical practitioners to meet with patients subject often to jottingly paroxysms either the remission or inter-
mitent forms of fever. who are also troubled with enlargement
of the spleen and liver. Dr. George Wyllie of London in his small
book of chronic diseases p. 67 states: "This form of malarial hepatitis
is the most important of all, as it includes within its extensive
boundaries, all forms of inflammation of the liver arising from
one or more repeated slight attacks of ague, and
malarial simple fevers. This is a form of disease from which the
system seems rarely or able to free itself." And here it
would not be out of place, to allude to the possibility of the
occurrence of low forms of micro-organisms in the blood itself,
(the localized form of Wyllie's), such as the Bacillus malaris teeth,
which are known to occur in the cases of individuals suffering
from fevers, the result of miasmatic poisoning; and the influence
of such organisms with reference to suppuration in the liver - I
proceed to quote again from Dr. Wilson Cleghorn's article in
the British Medical Journal of February 25, 1888, pages 425, 427,
and 428: "Staphylococcus pyogenes aureus. Three of the
organisms most commonly present in acute suppuration. As
its name implies, the organism is a coccus which tends to
arrange itself in the form of bunches. It grows readily at the
ordinary summer temperature, but most rapidly above 30° C.
When grown on gelatine or some causus liquefaction of that
medium, with the development of an orange-coloured deposit.
"When grown on agar kept at the body temperature, we see soon after 24 hours, a white or light yellow transparent layer at the point of inoculation, which becomes more distinct, and of a bright orange-yellow colour; in后者 it grows very readily and presents the same appearance. This organism digests albumen very energetically; it also gives rise to a peculiar sweet and acid-like smell of decaying starch. Injection of this organism into animals gives varying results, according to the number injected and the other conditions of the experiment; in the case of rabbits, it is comparatively easy to subcutaneous injection to produce inflammation, or intravenous injection, to set up abscess in the kidneys, and also in other organs. Pasteur has also found an organism in the pus of acute abscesses, which closely resembles Friedländer's pneumococcus.

From Fischer's results, it is found that staphylococcus was present in 71 per cent of the cases, and the staphylococcus pyogenes abscesses in the one which occurs most frequently. As regards the mode in which an abscess is produced by organisms, a considerable number of facts have recently been obtained from the examination of cases after infection, where the organisms are circulating in the blood and become deposited in the smaller capillaries in the form of plugs, as it seen in typhus, the first effect is the change in the tissue, caused by pigment accumulation (xenos). On staining sections of tissue, in which these plugs are present, with the ordinary aniline dyes, it is found that while the mass of organisms is intensely stained and while
While the nuclei in the ascites have become soft and colourless, there is a ring of foci around the central mass of organisms which does not take on the stain, and which presents a homogenous translucent appearance; this ring evidently results from the action of the concentrated products of the micrococci, the foci being brought into the condition of coagulation also.

Often, in addition, a second ring appears at a greater distance from the mass of organisms, this ring being composed of a dense layer of leucocytes, especially collecting where the seminal substances are more dilute and do not interfere with the life of the cells. As time goes on, the immediate translucent layer becomes infiltrated, on the one hand with cocci from the central foci, and on the other, with cells from the outer ring, and the original tissue rapidly disappears, probably as the result of the pustulating action of the cocci. At the same time, the fluid formed does not coagulate, probably owing to the pustulating action of the cocci on the fibrinogen, and then we have a central collection of fluid, containing leucocytes and micrococci, surrounded by a wall of leucocytes and cocci — in short, abscesses.

(3) Repulsive abscess following an attack of acute dysentery in Southern India, is in my opinion, a well-established fact, and corresponds very closely to the formation of multiple abscesses and the presence of infection on the joints in cases of pyorrhea. Various medical men of high professional standing are of the same
Jamaica. Sir George Moore in his work on
Tropical Diseases 1898 states: "The frequent occurrence of
infection with Dysentery is indefensible." Dr. Budd states that
acme depends upon "leucocytic absorption from Dysentery
or the ulcers in the intestines, stomach or gall bladder;"
and Dr. N. Cheverie is of opinion that Dysentery in the 2nd
season ends in liver abscess, all the acting in the anus.

In instances of acute Dysentery being the immediate premonition
of a fatal abscess, I refer to Cases IX, XI, and XIII, the patient
in each case being a woman. Then, when we consider the
close relation between the venous and lymphatic circulation
which is established between the large intestine, and the liver,
we will not be difficult to trace the connection between the two being
the ill-formed and disintegrated products, containing phagocytised
bacilli or maybe cocci, of a largely ulcerated colon are
with ease carried by means of the circulation, venous or
lymphatic, to the liver, and there retained in the complex
structure of the latter organ to become the focus of a large, single,
or many smaller multiple abscesses. For this pathomorphological
reason a death is necessary to discover the nature of the
usage which is the immediate cause of acute Dysentery
in the patient; and by which the polluted state of portal
blood is undoubtedly a source, the careful examination
of which may reveal the true nature of the
In addition to the cases appended to this
paper.
paper. I remember well the case of two young European medical officers, who spent along with myself, the first 2 years of their service in the Afghan Campaign of 1878 – 1880. These two young men were attacked with acute dysentery when in the enclosed camp in the citadel of Candahar. They both recovered from the dysenteric attack but shortly afterwards were laid low with hepatic abscess, and died; one in the Bombay General Hospital, and the other in the Red Sea, when on his voyage back to England.

The obvious difficulties of stations service prevented me from obtaining a carefully recorded history of these two very striking cases, but the facts are clearly and indelibly impressed on my memory.

(d) With reference to intemperance or excessive indulgence in spirits as a cause of hepatic abscess, it strikes me that this is not by any means an immediate cause, inasmuch as we meet with cases in individuals, who were in no way addicted to spirit drinking in any form. In reading over the history of the clinical cases appended to this paper it will be noticed that many of the patients, more or less, natives of India, were addicted to "Driz". Hence should infer that this evil habit would render an individual predisposed to any derangement of the liver, and that abscess might follow as a secondary result of the primary lesion. This is an established fact, that the habit of inmoderate indulgence
Indulgence in drink leads to a cirrhotic condition of the liver, when the organ in the first stage is much enlarged by the excessive growth of connective tissue, and in the second stage is much contracted by the shrinking of the young embryonic tissue. It would be a mere presumption to suppose that in the first stage (enlarged) of cirrhosis the excessive young cells might degenerate, under the direct stimulus of alcohol, into a purulent form, lead, to abscess; and yet Dr. Morehead was of opinion that cirrhosis of the liver were not uncommonly found, although not so in European countries. The opinion of Dr. C. B. Chevening, concerning intercourses as a cause of abscess, is of great importance, and requires very careful consideration. He maintains that it is not a prime cause, inasmuch as it must be proved, why English troops living in the West Indies have been quite exempt from cases of whom, while in India they suffer markedly. In both cases the effects of intercourses and previous living being at play. It will be right here quote the opinion of W. G. Harley of London as stated in his book on inflammations of the liver, p. 24. He says "Indian liver cases are still much more common than they ought to be or would be I imagine, if more attention were paid to food, drink and exercise. For careful inquiries among the Indian liver patients, who come to me have led me to the conclusion, that notwithstanding the improvement that has taken place in the habits of Europeans resident
"resident in the Tropics, there is still room for more, even and all confess that there is still prevalent an habitual over-indulgence in rich, highly-seasoned, stimulating food, both by men and women, while resident in a climate so hot as renders it impossible for them to take sufficient bodily exercise to use up all the hydrocarbons admitted into the circulation." Concerning this opinion of Dr. Harley, I can only say, that this "habitual over-indulgence" which is not in accordance with my experience, would, if it did exist to such an extent, act most prejudicially among the women, who naturally have less opportunity of bodily exercise: but I never knew in my experience of 10 years, nor have heard of a case from my medical brethren, of a case of hepatic abscess, occurring in a female patient in Southern India. As within my knowledge, most young European officers, arising in the Tropics, who form the evil habit of "flogging," i.e. indulging in frequent draughts of brandy, or whiskey with aerated waters, suffer from enlarged congested livers, and occasionally after a severely inordinate "boast," an abscess may form, but the origin of the abscess I should be inclined to attribute to an altered condition of the blood, weakening the organ and rendering it liable to attack from organisms."

Other causes referred to by various authors are spasms and injuries about the region, guinea worm, bilious infections, parasites, etc., but these likely cause as foreign bodies, but of these I have had myself no experience.
Anatomical characters: The formation of abscess in the liver follows a course similar to large abscesses in other structures. Beginning with a stage of hyperemia followed by a congested state of the circulation, and congestion of lymph and pus, the liver structure seems to break down; and hence we find on the right like more often than the left, the central yellowish-brown portion occupying a huge abscess whose apex points either forwards or upwards or downwards, and immediately surrounding this a zone of intensely dark red congested liver structure. In the very few opportunities viz. 4 or 5, which I had of obtaining a post-mortem examination of patients who died from the effects of abscess (the nature ofIndia being strongly adverse to any interference with the body after death) I was unable to decipher a real membrane wall to the abscess. After the pus had been removed, either by operation before death, or by incision after death, the pus appeared to be collected in a cavity, the walls of which seemed to be the congested liver structure, and having a very dark brown colour, and in one case almost black and gangrenous looking.

Referring to the post-mortem conditions as seen by me, the case No. 15 of R.C., a Frenchman, was one in which a solitary large abscess from albusa existed unperforated; as the patient was unwilling to submit to himself to any operative interference. In this case
Case: The phenomena observed were the following: The pericardium contained about 2½ ounces of pale straw-colored fluid. The liver was found pressing up the diaphragm on the right side, and compressing the lung to a large extent. The upper surface of the right lobe was firmly adherent to the under surface of the diaphragm, and at the highest point was at a level measured above the point of the right nipple externally. The base of the right lung was also adherent to the upper surface of the diaphragm. The weight of the liver with the adherent tissue was 9½ pounds. The upper half of the enormously enlarged right lobe was occupied by an abscess, which when incised was found to contain 72 ounces of yellow, lardaceous liquid pus. In other sections made of the right lobe points of pus were seen, which seemed to indicate a series of minute multiple abscesses.

The main lesion of the abscess was at one place large bags of lymphoid structure, but no contiguous membranes were found inside it. (No further examination was made of the body, only a partial examination being allowed.)

The above is the characteristic appearance of what may be considered as a remarkably typical case of a large solitary abscess, and I am of opinion myself that a more illustrative case could not be seen, nor is a second opportunity likely to present itself after
often in hospital practice.

The phenomenon of second post-mortem examination not quite so well-marked as the former was the following: (The patient was under the care of Dr. F. D. Symes of the Indian Medical Service, who was a predecessor of mine in the Office of Assistant Army Physicin.). Dr. Symes states: "A huge abscess was found, nearly the whole of which was gangrenous. The abscess perforated into the left pleural cavity, and communicated also with a cavity in the substance of the left lung. The left lobe of the liver had almost disappeared, the right lobe remaining, forming the floor of the abscess. The rest of the liver was uniformly enlarged, and studded everywhere with abscesses varying in size from a millet seed to a walnut. There was no ulceration of the intestines. The pericardium was thickened and adherent except to a slight extent behind". There was evidently an abscess which had formed in the left lobe, and had extended to the right to the right lobe, and had ulcerated into the left pleural and lung.

Mycotic complications of hepatic abscesses are an interesting feature of the disease. They are as follows:  
1. An abscess may burst into the stomach, and the contents vomited.  
2. Into the peritoneum by the common bile-duct or into the colon, and the contents evacuated per rectum.
(3) An abscess may extend upwards and find its way directly through the right pleura and lung or indirectly to the left through the left pleura and lung. This may be followed by the effect of any being with the peritoneum: (4) Into the peritoneum. But usually, the result being immediate death. (5) Into the peritoneum, but also rarely in this direction. (6) Through Glisson's capsule and between the interstitial muscles and the ribs. (7) Through the abdominal wall externally either in the right hypochondriac, or near the umbilicus, the caecum being of the effect by surgical interference. (8) Finally, having my memory me carry what I assume was a large abscess the liver in a European artilleryman, who died from such obscure symptoms that a diagnosis could not be made in life. A post-mortem examination revealed a large, cystic, white mass in the right lobe of the liver. The contents of the abscesses, called cysts, were of the consistency of jelly, and were partially soluble in strong hydrochloric acid with a certain amount of effervescence. The substance was evidently the ferment of some toxic but fatty matter.

A few words may be said with regard to the contents of hepatic abscesses. As a rule when an abscess has been allowed to develop gradually, and has not been subjected to manipulation of any kind, the pus of the normal yellow colour as is observed in large abscesses occurring in
in other positions, and has no offensive odour. But when the usual methods of palpation, percussion, sound, or palpation, have been adopted, even with moderate force, the pus is of the bluish-tinted, and of a greasy character. When the abscess has burst through the lung the pus is always of the characteristic "chocolate" colour, and when injected it is frothy, and mixed with bubbles of air. When it has burst into the space or large intestine, and the contents are evacuated per anus, the pus is of the same nature as in other large abscesses, and of pure healthy pus. Repulsive notices, that the pus is freely mixed with blood, and some yellowish, which in these cases, signifies if a small vessel has occurred by the following affection, when hemorrhage has occurred into the cavity. The quantity varies a great deal of gravity. In referring to the appended cases it will be seen, that the quantity on first evacuation of the abscess was respectively 16, 8, 4, 16, 5, 7, 12, 28, 7, 9, 67, 24 and five ounces, but as the discharge continues daily the total quantity must be far in excess of these numbers. The quantity varies naturally enough in direct proportion to the time the abscess has been allowed to develop itself, and here I would mention that the chances of life are also dependent partly on the rate of the abscess when it opened. The larger the abscess, the more fatal this and vice versa.
times night and day. The patient is unable to lie on the left side (as the large spleen) and inflated looks her no support and feels easier when lying on her back or on the right side. On examination we find the abdomen somewhat distended, the recti muscles stiffened and often like a hardboard. There is bulging in the right hypochondrium with local reddened and cold area, there is great tenderness on pressure over the 7th and 8th ribs about two inches external to the mammary line; and also when the abdominal muscles being relaxed, firm pressure is made by the hand beneath the costal arch on the right side upwards towards the diaphragm.

The measurement of the right half girth over the region of the liver is found two 1/2 to two inches more than the left. The respiratory movements are quickened, being on 15 to 20 and more per minute. On percussion there is found marked dullness extending from the lower border of the 5th to 2 1/2 inches below the costal arch, and over the liver the fluid sounds. A thrill is plainly felt noticed. The costal arch is often elevated when the edge of the liver is the left side. Dr. George Asbury (Inflammation of the liver page 12) states, in some cases, the lower half of the right lung is solid, and a distinct hepatic friction sound is audible in the region of the diaphragm. This would justify the presence of a degree or more in the elevation to 101° or 102° F, with an
an equivalent morning fall to 99° or 99.2°F. This is clearly shown on reference to the various charts annexed to the clinical cases.

The fatal section occurs with fits of shivering (tremors), which when they occur in person who are subject to tigec fever may be mistaken for the usual paroxysms of shivering so characteristic of the disease. Occasionally, when the oversea has been allowed to gradually develop itself and occupies the larger portion of the right side of the abdomen, the bowel being commonly present the patient often passes large clots of blood and continues to do so for 3 or 4 days; in termination (this may be accounted for by the severe congested state of the bowel and intestinal veins). The disease is sometimes especially in connection with fully food, often at a standstill and milder will pass in a convalescent state by the bowel. In this later stage of the disease there is well-marked anaemia exhibited in the face, thighs, legs, feet—

When the disease takes its origin in the left side the patient complains of para-symmetrical pain in the epigastrium, which is often relieved by firm pressure (Case 10). A well-marked tense, fluctuating swelling may be observed in the epigastrium. Pallor in the lower part extends to 2 inches below the costal arch, and 1 1/2 or two inches left of the middle line, and the termore pressure on the pericardium and heart and displaces the apex beat to the left. Great pain is experienced on deep inspiration. These are the usual symptoms in well-marked
cases, and more unpronounced symptoms may be noticed
on perusal of the affected cases.

An examination of the urine in
cases of the disease above-mentioned shows variable results. In the
majority of cases the urinary tract, of acid reaction,
with a heavy deposit of albumen and phosphates, the
specific gravity being 1078 to 1080. In most cases, albumen
is often found microscopically, and the reaction may be fairly alkaline.
Throughout the urine is dark in colour, peta, coloured, and
contains bile, bile pigments, and albumen. In one case the
urine was concentrated, and leucocyt and pyrocytes crystallized
out in immense quantities, a fact often noticed by the
medical officers in South India.

V. Complications:—The usual complications are directly
in Southern India were Brachyema, Agancy, one of the forms
of Malacal Fever, Addisonism of the Liver with Ascites, Phæmia
or Ascite Pneumonia. Occasionally, I have noticed the occurrence
of Ascites following an attack of Acute Congestion of the Liver
in which case the latter condition can hardly be considered
a complication.

VI. Diagnosis:—I have made no remarks on the diagnosis
of Hepatic Abscess by a quotation from Dr. G. Wales's book on
Diphtheria of the Liver. p. 64. He says, 'Although this advent
In the dimensions of the liver are about the same in alleles or species, the normal size varies not only in a man and woman, but according to the height of the individual. In a frame of 5 feet 7 inches, this calculated at 4 inches in the perpendicular right rump line. Lame of 5 feet, at 3 1/2 inches: while some at 6 feet, or more 4 1/2 inches are thought to be about the average extent of the liver. The liver is usually said to begin about 2 inches below the nipple, but where it begins at about to widely vary in comparative little consequence; from the fact that some people have naturally very large suspensory ligaments, and in these the liver is much lower in the abdomen.

From my own experience I must state that cases have occurred in my practice in which the diagnosis of the existence of abscess in the liver was not made during life; and this was earlier in my Hospital experience, when an account of the patient not complaining of any pain in the region and the general symptoms being vague and indefinite, and the objective symptoms not being sufficiently heeded (Day noting of the large number of patients it be attended to and examined) these ideas of abscess did not occur to my mind. Apart from this, there failed to detect absence in the careful examination in cases where there is bulging in the right hypochondrium with pain on pressure over the lower ribs on the right side, and a distinct feeling of fluctuation with tension of the superficial
superficial parts, the diagnosis is advance easy and palpable. Again, with reference to the difficulty of diagnosis, Dr. Starkey says, "This is proved by the fact that not alone in India, but in every country, hepatic abscesses have again and again been discovered at the autopsy of persons, in whom during life the existence ofulent matter in the liver was never seen so much as suspected." Let it be made a rule in cases in which I found enlargement of the liver without pain, but attended with a high hectic temperature and occasional rigors, and attacks of diarrhea, to explore the liver with a large aspirating needle, and then explain I have sometimes made in low places, often without detecting the presence of pus, but without apparent harm to the patient. This is my mind, no more certain method of diagnosing the presence of an abscess than the use of aspiration by the aspirating needle. The needle is met with any antiseptic ointment or lotion (such as carbolic oil or corrosive sublimate lotion), and is firmly pushed into the substance of the liver, and withdrawn. Have as often used the oral aspiration, removed by organic pocket force, which answers well when the abscess is suspected to be near the surface.

Apart from operative interference, the following are the most useful points to be attended to, which enable a right diagnosis to be made. These are the results of my own experience (a): A sudden feeling of weight and uneasiness in the region of
of the liver - as described by Dr. Cheever, who himself suffered from the disease, a feeling as if a large shot was deposited in the substance of the organ, and could not be moved or got rid of by medicinal or other means.

(5) The carefully recorded daily temperature of the patient. The chart invariably shows a characteristic rising of the fever, a rise in the evening and a fall in the morning; too much value cannot be attached to the use of the thermometer in all cases of hepatic disturbance.

(6) The occurrence of rigor in a case where enlargement of the liver has existed for one week and whose diarrhoea never depended has been known less as a constant symptom.

(7) Pain referred to the right shoulder, and being of a dull character, and incapable of being relieved by any local applications such as anodyne poultices, or counter-irritation. Moreover, the pain cannot be traced to any local cause or to the general condition of the patient, such as a rheumatism or joint trouble.

(2) The appearance of bloody incontinence, which are not associated with any pain, mischief, or uterine disorders. The bleeding is generally very severe, and there observed frequently that haemorrhage have to be changed 2 or 3 times in one day, to keep the patient dry and comfortable during the night.

(3) The gradual emaciation of the patient, the face being more particularly a drawn, emaciated appearance and in Europeans the complexion becoming extremely pallor, and of a muddy aspect.
aspect. Occasionally the face becomes puffing, more especially the loose cellular tissue below the eyes becomes marked by oedematoses

(g). A feeling of pain when firm pressure is made downwards on the under part of the liver, by the hand placed underneath the costal arch - the patient lying at the same time seated to relax the abdominal muscles.

The above are I consider are the most important points and symptoms, the observance of which will lead to a right diagnosis in a case of hepatic abscess; but at the same time, there is no doubt that an experienced physician accustomed to observe hepatic affection in a tropical climate, finds much less difficulty in effecting a diagnosis, than others who have not had opportunities of observing the general effects of hepatic abscess, even before any palpitations are apparent.

VII. Prognosis:— I consider the prognosis most unfavourable. When the abscess is detected early, when by encephalographical interference, conducted under antiseptic precautions, a slow recovery may be effected. When the abscess bears up, the abscess finds an exit, either by vomiting, or through the lung by expectoration, or through the bowel. In many cases, the recovery is to a certain degree favourable. I have known 2 cases of European officers, who bought an abscess through the bowel many
many years ago, and are now in enjoyment of excellent health. With regard to an abscess that has been allowed to develop very largely, and occupies the greater portion of either lobe, there is no doubt that life may be prolonged and much relief afforded by surgical interference, but my experience leads me to think that suppuration daily continues, and before long the pain becomes offensive, and the patient gradually sinks from exhaustion, or peritonitis, or pericholangitis, with the formation of multiple abscesses. One writer, and amongst them, Surgeon General MacPherson, states that absorption of an abscess for forty times occurs, but this must be a rare termination, and one that would require new exact proof.

VIII.

Treatment:— This may be divided into that of the two different stages: (a) the treatment of the stage of Acute general congestion of the liver, or of Acute Hepatitis, or Pericholangitis; (b) of the abscess when it has formed. —

The stage (a) is well treated by the method devised by Dr. St. Crever, who writes thus: "In the absence of jaundice, a full dose of Castor oil should be given at once, and a small one ought to be repeated daily. The application of large "tourniquets repeatedly all over the whole hepatic region, "and a warm fomentation, may be given in 15 or 20 minutes and if "cold, to act on the bowels" — Very considerable experience of this treatment
Treatment before appendicitis occurs may avert death. However, in my own practice in Madras, I always in this stage of the disease use the sulphate of Magnesia in place of the Castor oil, and it appears to me to have a much more drastic effect on the system, and by frequent watery evacuations which it causes, it is a powerful relief of any Estate of the circulation, whether in the liver or intestines. A favorite prescription of mine is one which combines a dram of the sulphate of Magnesia, 5 grains of the sulphate of Bismuth, 6 minims of dilute sulphuric acid, with a bitter or aromatic infusion. This can be repeated every 2 hours, until the bowels act well and the temperature is lowered. In addition to this, I am in the habit of applying large warm linseed poultices, with a sprinkling of mustard in them, which have the effect both of relieving pain and tension, and of acting as a mild counter-irritant. After the acute stage has passed off, a tonic containing mineral acids with a bitter infusion adds greatly in restoring the normal functions of the liver and improving health.

In acute inflammations with a high temperature, tenderness, pressure, and pain experienced in the right side on drawing a deep breath, it is necessary to apply strong counter-irritants, such as turpentine or mustard, if these have not the desired effect to abstract blood locally by leeches. Dr. Mackinnon and Maclay, advocate active depletion.
deflection in acute hepatitis; but from my own experience, Brumflett's method did not clear from an inflamed or acutely congested liver, by the mixture of Magnesium sulphate and quinine, before mentioned.

The stage (b), that is when the abscess has formed, and the presence of pus is suspected. Now, the use of the aspirator needle, or the small explosive form of the hydrogen pocket case, should be at no means be avoided, even also the usual antiseptic precautions. The advantages are, on the one hand, a method of making a sure diagnosis, and, on the other, of doing no harm to the patient whose mind will best rest, when he knows that there is no suggestion in the organ. If pus is detected, we must remember St. Hilare's dictum: in the subject, V. 12, that when abscess takes possession of a chronically diseased liver, repair is nearly impossible. Moreover, the universal opinion of modern surgeons, as well as many surgeons is, that when once the presence of pus is ascertained, an early and speedy evacuation must be effected. — St. Hilare, in page 153. Of his book states, "whether the abscess beidict further, bronchitic, a metastatic, or sterile, the subject is, utterly it's contents, as speedily, and as gently, as possible. Otherwise, the patient may suddenly die, without the slightest warning, from its breasting into the pleura, lungs, pericardium, digestive canal, pleuræ, or other parts of the body.
or even into a blood vessel. On the other hand, it may
with equally effectual, though more slowly, be healed.

Blood forming, or mere absorption. In many cases, after
removal of the pus, a drainage-tube might be inserted
into the neck of the abscess, and the cavity daily washed
out with tepid antiseptic water.

Mr. Waring, Moreau & Murray also state, that the evacuation
of these abscesses at an early period is desirable and
advantageous.

The procedure which have adopted in the General Hospital
at Madras has been, to first explore with a needle or
forceps, and having once detect a pus, to follow up the
point where the purulence, with a straight sharp bistoury.
This incision once gives a free vent, introduce I
insert a medium-sized drainage-tube, forced by two
ends of thread (run through the end of tube) to the patient's
side with catgut plaster. The wound is then dressed with
gauze, rendered antiseptic with corrosive sublimate and
attended to morning and evening. Usually make the
exploring incision, somewhat lateral to the most
prominent part of the palpable hygroma, and have
found from experience, that an incision should never be made
inferior to the middle third of a rib, because after a time the
wound contracts the drainage-tube works against the bone,
and causes much erosion, with pus-stones - A method which
I have little to add, in the experience of late, which, I trust, I shall be able to make a trial of, on my return to Madras, after the expiration of my connection this year is over, which I saw a notice in the B.M. Journal, but of which I am unable just now to find; this is, the resection of a portion of a rib over the seat of the abscess, leaving the peritoneum of the intestine, smoothing out to deal with the cavity of the abscess, with much more ease and room to work in; I am not in favour of the practice of washing out the cavity of the abscess, unless the contents become septic, and are of offensive odour, showing the presence of petrolia - again, with regard to medicinal treatment, the use of germicides, such as -

overleaf is the record of the clinical cases attended to in the paper. The histories of cases have been much condensed, and cut short, to save space.
Case 1

Mr. A. K. Hindu, aged 32 years, builder. Admitted 3.11.36.
complaining of severe pain on the right side and right shoulder joint, accompanied with fever and slight rigor.

Notes: Nine days ago his abdomen began to swell. No history of malaria or dysentery. Habits moderately temperate.
Patient is emaciated, anemic, anxious countenance, eye sunken, abdomen distended, tender, indurated with fluid. There is marked palpation and oedema as the right hypochondrium, great tenderness on pressure over the 7th and 8th ribs about 2 inches internally. At the mammary line: Unable to lie on the left side, best finds relief when lying on the right side.
Regurgitative return extends from lower border of the 5th rib to 2½ inches below the costal arch. Measurement of fluid on the palpable portion 1½ inches more than on the left side.

Temp. 101.3°F.


Bedtime temp. 99.2°F. Takes food well. Sleep well.

Nov. 9th: Pulse: 100. Respiration: 26 per minute.

The patient did very well daily, till 25.200. When abrupt temperature rose to 102.6°F., after 24 hours. Respiration much

enhanced. Right 2nd and 3rd lung was dull on percussion. Pneumonia.


friend on the 22nd jour from hospital.
Case 2.

E.P. - a seaman, aged 34 - a sailor admitted into the General Hospital, complaining of pain all over the body. States that pains came on suddenly 9 days ago, were followed by slight cough, after sleeping in the open air.

General condition: A short, well-built, very muscular man.

Nervous system: Pains all over the body and referred more especially to right malar and secondary right shoulder region - pain is dull and permanent.

Digestive system: Tongue normal in appearance, and nothing particular noticed. Appetite improved. Stools during last 4 days increased in consistency.

17: Had a shivering fit with slight rise of temperature - 100.9° Feb.

20: Ordered sulphate of magnesia with salt. Cough and acid sulph. 2c.

Temp. morn. 99.6°. Evening 100.8° Feb.

21: Much pain referred to shoulder joint, temporarily relieved by the application of mustard. Note temp. 98.6° Feb. Evening 100.6° Feb.

29: Pain in shoulder joint continues. Cannot lie on that side.

Repeat mixture of 20: Morn temp. 99.2°. Evening 99.2°.

5th: Pain in the shoulder joint - also tenderness over liver site; is now slightly enlarged. Tongue normal - appetite good.


8th: Pains less - better. Bowels moved very well after taking 2c of sulphate of magnesia. Sleeps fairly well - still breathes much. Temp. 98° Feb. 10th:

13th: Pain in shoulder joint and wears much worse. Can't sleep at night.
20th. Consp. very troublesome - no infection - Temp. 100°6 Fahr.

21st. Slight cough. Tongue much glossy - Back. Night-sweats and

22d. Poor sitter. Consp. troublesome. Slight fever last night. Enlargement of liver

23d. Right side much the same from last day. The temperature

24d. Slightly agreeable. His liver was often parenchymatous, but no

25d. Complains last night of much pain and tenderness over liver,

more towards the epigastrium. Sweating especially and very violent

chaos. Warm baths and paraffin with mustard were applied.

April 1st. Sudden has been very much off and on since last date. Leper

fed on cement in morning after sleep. Sanguinolent of blood with his

mouth. In morning. Ordered right and acid and alcohol del mixture.

April 2d. Sanguinolent in morning. Sallow, dysenteric. Drunken his liver. But

April 3d. Drank plum wine in last date, and refused to have any

operation performed on him although I pressed him in the subject.

Herpetic symptoms continued and with sallow, dysenteric. These

were much sallowness of face, great induration, haggard of the

skin - constipation very occasional - Very consumed. Laborous, Day and

night diarrhoea. Cachexia and uncommunicable - fever, blood clots and

constipated. He died from dysentery 10.45 P.M.

Postmortem examination revealed on page 14.
Case III. 

A. - a native Christian; aged 32 - domestic servant admitted into the General Hospital yesterday, for pain and tenderness over the abdomen. 

State, himself that about two months ago he felt a colicating pain in the epigastrium which disappeared after native treatment. This pain however reappeared ten days after and was so severe that he was unable to move, and when the Bazaar market was held he had to be taken home in a lancy. He has had fever ever for 10 days which came on at 2pm. and left last morning. The pain is present on morgue, and is only relieved by it being a cloth tightly wound round his chest.

General condition: - a middle aged man - short, spare, face very anxious - eyes staring and prominent - febrile reaction - voice husky - can lie only on his back.

Examination: - Potatoes very hard - there is some tenderness over the whole abdomen, which is hard and tense. Pain increased over region over epigastrum and left hypochondrium. In the epigastrium is a prominent swelling, towards the feel, fluctuating on palpation, very painful on pressure. The costal angle on both sides is slightly rotated. On percussion over the hepatic region dulness is found to extend from the 6th rib to 2 inches below the costal arch, and vertically from the right axillary line, upward to 1/2 inch to the left of the median line.

Respitory system: - Breathing is rapid and shallow. There is difficulty in performing the inspiratory act, and great pain in the epigastrium when a deep breath is taken. Respiration, 56.

(Diagnosis).
Signs:
- Tongue foul - Jured - Fissured, dry
- Brown patches
- Breath foul
- Great thirst
- No appetite
- Bones much contorted

Condition:
- Pulse weak 70
- Temperature 101°F

Urine:
- Wizened, scanty
- Protein 1078 kg-

He was an ordered an enema alone with a black draught of Jagermeister after next morning. Infantile stage 6 painful part.

Every temperature 102°F.

April 5th. Temp. 100.6. P. 95.1. Heart flat backed. Much the same.

19th. Melting in the epypharynx is more prominent - Infantile stage of 6 painful part.

Every temperature 100.6.

20th. Bulging in the epypharynx. Exploratory thoracic. An ounce of pus discharged. Opening chest with crude oil urethral. Temperature 92°F. Every temp. 100.5

21st. Temp. 98.6. Opened the wound of yesterdays exploration with a small hemostatic knot and drained a probe of its full length.

Discharged 8 ounces of pus - clear, creamy - no blood. Replaced a No. 15 drainage tube. Dressed with lint, pad, and dressing.

22nd. Symptom: Firmness in ephyarynx displaced and caused cough not now expected. Temp. 98°F. No pain.

After this the patient had no further abnormal symptoms and made an uninterrupted recovery. Was discharged April 25th.
<table>
<thead>
<tr>
<th>Name: M. Harman (Case 39)</th>
<th>Age: 87</th>
<th>Disease: Hepatic Athersis</th>
<th>Result: Died</th>
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<table>
<thead>
<tr>
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<tbody>
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<td>-</td>
</tr>
<tr>
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<td>89°</td>
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<table>
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<tr>
<td>Reaction</td>
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<td>Chlorides</td>
<td>-</td>
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<tr>
<td>Albumen</td>
<td>-</td>
</tr>
<tr>
<td>Urine &amp; Stools</td>
<td>-</td>
</tr>
</tbody>
</table>

Date: 5th of July

Case IV. -

No. 4. - European, aged 37 years, a coffee planter, admitted into the General Hospital on July 14th complaining of fever and pain in the Hepatic region. States himself that he has been in thedistrict for 5 years during which time he has had slight attacks of fever lasting for a day or two at a time. In the last 2½ months he has been frequently attacked with fever which has been attended with dull aching pain in the right hypochondrium. In the last 5 weeks this pain has been continuous of a throbbing character and fever has been accompanied with rigors and followed by profuse perspiration. Very shortly after ward a slight bulging was noticed in the region of the liver which has gradually increased in size. Has been always abomniuous.

Respiratory: Clear and normal. - Bismarck saloon.

Digestive System: Tongue furrowed, slightly moist. - Appetite good.

Complaint of great thirst. - Bowel not regular. - Hepato-lymphatic extermities pale. Bowels of 3 times daily. Marked tenderness below the costal arch. The most prominent portion of the swelling is seen to the right of the right hypochondrium. This tender to the touch and even slight pressure produces pain. - Fluctuation is distinctly felt. - The skin over the prominence is smooth and shining. Oedema also present.

Cutaneous system: - Skin warm but moist. Temperature 101.5.

Respiration system: - Has a short dry cough. A few minutes obstinate
riles, heard after coughing up the right lung. Breathing soft and
shallow. Respiration 24.

Urine: - Normal colour. reaction: 60, alkaline. contains oxalate
and urates. Sp. gr. 1.076.

July 15. - Anomalous grey striped blister and 67 ounces of bronchial
juice allowed to escape. Wound-washed with carbolic acid 11.30.


Temp. 79°. Sp. gr. 1.015.


Sleep well, and became better.

July 20. - Was hit 200, 3 million daily since 11. - Multiple hematomas and
stomach colour. Usually gain in appetite.

July 23. - Ran out Dr. Damp paper. A large quantity of pus and blood followed.


40% fat, daily. Urine still very dark and contains bile.

July 25. Medical with 25,000 brandy.

July 27. - The lung appears to have calcified. Slight cough and the opening into
thorax much clearer. The bronchial tubes have to be kept open.

Aug. 1. - Sleeps badly at night. Drinks coffee, affects poor.


Case V.:

Name: Christian - aged 25 years. Admitted into the General Hospital on the 27th of June 1875 complaining of pain in the right side of the chest, extending down to the calf of the leg. Pain has lasted ten days. Patient has been subject to frequent attacks of vomiting, a month ago from which he partially recovered but about two days ago he fell back in the right hypochondrium which extended upwards to the nipple and right shoulder. He has been a poor drinker.

Examination: Patient in fair shape. Marked emaciation.

Respiratory System: Great difficulty of breathing. Dry racking cough.

Complaint of a weight in the right side on coughing and on taking a deep breath. Breath smell is offensive over the right chest, externally and also internally. The right hypochondriac is full and that on the left is hollowed, as well as in resonance and by the respiratory motion. There are gaseous expiratory sounds at the apex of the right lung, and at the base. Respiration at ease of right lung, pectorally.


June 13th.
15. vinden. 3 days after last night. Borex went to bed, slept yesterday morning. Could not hear little heart agitation and severe sense heard, was she called before, but behind.
16. Bulging of the liver, systolic. 6th day of heart displaced to the left. Systolic heart murmur, deep by measuring 7th in the second place. On the third day, could not hear. Mayo bled on the abdomen. Deep sighing and abdominal breathing.

June 20. Yesterday afternoon. Temp. 80.4°F. A good sign.
After withdrawing, the tube about 4 ounces of venous apparatus for relieved and here. Deep sighing, tube inserted. Long very, trouble.


July 3. Temperature 100° Danuber scale. 8 hours.

9th. July.

Gradually became worse. Andersen showed that he was going to recover.
Case VI:

Mr. Xander, aged 36 years, in good health, entered the General Hospital for the first time on the 5th of April, 1882. Patient had a rather acid constitution and a history of dysentery which was followed by a severe attack of dysentery. The patient was admitted to the hospital with fever and rigor. The fever has gradually increased and the site has become swollen.

Examination:

- Tongue: Red, smooth, dry, tongue tip tender
- Body: Tender, but not too hot

Digestive System:
- Appetite: Fair,但他 ate all the food. He had some difficulty swallowing.
- Bowel Movements: Normal, greenish in color. He passed stool 3 times daily.

Circulatory System:
- Heart: Normal, Pulse: 90, Temperature: 98.6

Respiratory System:
- No noticeable symptoms, no night sweats.
- Temperature: 99.2

Respiratory System:
- Temperature: 99.2
- No significant abnormalities.

Injury:
- Under the lung: 25.5 x 3.5 cm, with a deep wound.

April 8th, 1882:
- Slight pain today, some pain on coughing. Bloodstained. Damage done to ribs.

April 9th:
- Tongue: Red, smooth, tongue tip tender
- Body: Tender, but not too hot

April 10th:
- Tongue: Red, smooth, tongue tip tender

April 11th:
- Tongue: Red, smooth, tongue tip tender

Bud's appetite still apparent.

25: Temp 99.8. No pain. On exploring the wound with a probe on the 23, a fresh abscess was found and the graft hematoma was opened. The abscess material was removed. No evidence of abscess formation or albuminuria.

29: Temp normal. Burns well done and appear to contain pus.

30: Pus present. Reddened and incised. pus thick and yellow.


June 14: Temp normal. Erythrocytes 100,000. On examining the wound today with a probe there was a sudden rush of serum, looking fluid, dark in colour, and injected with the bubbles of offensive looking gas. Bowels removed last night. Both with some difficulty. Stomach full.

8: Temp normal. No discharge of pus but the wound bleeding as usual.

8: Palpate the granulation tissue firmly. Tissue firm, clean, and moist. Appetite fair. Dr. Beaven troubled.

13: Temp normal. Slight yellowish discharge today. Offensive in character. Bowels removed after eight last night and not as ven fore. The discharge on pressure off the bowels very much. Dr. Beaven told no food and towards the end of the day - nothing at all.

17: Continued much the same way from 10.5. Temporal hair.

5.7: 41.0: Temporal hair.

5.7: 41.0: Temporal hair.
Case VII.

S/R. D.C.: European, aged 40, an engineer admitted to the General Hospital on Oct. 26th, for pain in the region of the region. Later that afternoon he had a slight discomfort about the right side, the patient said he felt a little uncomfortable about the right side of the abdomen. The day after he had severe pain in the region of the liver which lasted for about an hour, and passed away after the application of tincture of tar and marshmallow plaster, leaving a darkening pain behind. He passed about 2 or 3 days afterwards, and lasted about an hour as before. About this time he also had an acute pain in the right shoulder and neck, which left him after about 24 hours. He was subjected to four of an intermittent character; he does not remember having had any rigors, but was reported to be badly ill on a few occasions. He was more frequently at night. He suffered from dysuria, but has always been of a constipated habit, using enemas frequently for relief. He has enjoyed good health for many years. Habits: temperate.

Examination: A white, well-built, moderately robust man.

Disease System: Tongue deep red, coated with a thick yellowish layer; while fair in the centre, slightly ted. Bowels not opened for 2 days. Splenic distension begins from upper border of the left kidney. On palpation there is slight tenderness over the liver. No edema, no jaundice. Can be detected. There is slight tenderness over the lower part of the right side. On auscultation a grumus sound can
can be heard prominently below, extending to the axilla. Vocal resonance increased. Measurement 1" wider on right side.

**Respiratory System:** Respiratory sounds profound. Abundance of breath. Right degree. No asphyxia. Mouth mucous membrane responsive to very small quantity. Respiration 24 p.p.m.

**Circulatory System:** Pulse beat neither rapid nor slow. Heart, action accelerated. Pulse frequent — weak 100.

**Extensor System:** Rigidity often present yesterday evening. 99.6.

Skin moist, perspire after.

**Neurology System:** No pain complained of now. Sleep without restless.

**Urine:** Color — amber. Strongly acid. No albumen.

**Liver:** A little bile.

**October 30:** Bowels moved after an coma. Operation 28. Pulse 100.

**October 31:** An exploratory force introduced. Due blocked the cannula which was withdrawn — open laterly for 30 minutes. No action of various type withdrawn. Drainage tube No. 3, same long introduced — kept open against application.

**November 1:** Discharge — fluid及. Rect. Well. Much discharge.

**3rd:** Still much discharge. Cant wash out. Tube inserted. This week. 8th: Much, before. Tubectomy again. Cant. continue.

**11th:** Still much discharge. Tubectomy in progress. Bowel well.

**13th:** Discharge. Smells little offensive. Bowel movements. Hemorrhage has striking appearance.

**17th:** Discharge. Milk offensive and large quantity. Bowels not moved yesterday.

**19th:** Discharge same. Cant symptoms. Note increase in color. Hemorrhage has striking appearance.

Nov. 22nd
Nov. 22. The discharge smells much better, and late still clearer.

Toque clean. Cardi—rhythm not definite. Corne thrombosis.

Bowel movement: soft, green, non-tarry.

27. Liver dullness moderate, no fixed. Back down to 2 inches below the costal arch in the mammary line. Pulse frequent. Perspiration also.


6. Abdomen much depressed. Stomal the was left and patch of an abdominal soup. Bowel injur. very much labour. Fever now.

Dec. 11. Very poor and frequent. Pulse very poor and frequent.

Gradually get worse and finally exhausted at 11.15 PM.

Case VIII:

M. - Native: aged 30 years; a tailor, admitted Sept. 25th for fever and tenderness over the upper left lobe of 15 days duration.

States that 14 days ago he had an attack of fever - 3 days after this. He had severe pain and tenderness in the region of the liver and a dragging pain in the right back. Fever worse at night. Dossetment at night. Pain much felt in right shoulder joint.

Examination: Relaxed and cold and poorly nourished man. Pulse aymetrical, swingy yellow. Set up in bed.

Respiration: Normal, no embarrassment of respiration.

Circulatory system: Apex beat in 6th intercostal space 1/2 cm. above middle of mammary line. Double pulse, manner bell beats over the right upper surface of right side. 5th to 6th minute, pulse 80 per minute. Palpable in carotid, subclavian and brachial arteries.
**Patient Information**

Name: Mulliah

Age: 50 years

Disease: Hepatic Malaria

Result: Unknown

**Temperature Chart**

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<th>Date</th>
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<td>26th</td>
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**Other Observations**

- **Pulse**
  - 52
  - 68
  - 72
  - 76
  - 80
  - 84
  - 88
  - 92
  - 96
  - 100

- **Resp.**
  - 16
  - 20
  - 24
  - 28
  - 32
  - 36
  - 40

- **Motions**
  - 2
  - 2
  - 2
  - 2
  - 2
  - 2

- **Urine O.Z.S.**
  - 5
  - 5
  - 5
  - 5
  - 5
  - 5

- **Sp. Gr.**
  - 1.012
  - 1.012
  - 1.022
  - 1.032
  - 1.044
  - 1.076

- **Reaction**
  - Negative

- **Chlorides**
  - Positive

- **Albumen**
  - Negative

- **Day of Dis.**
  - Unknown

**Note:**

- The temperature chart shows a fluctuation in temperature, indicating a possible change in the patient's condition.

**Source:**

Objection: Tongue dry, covered with thick fur—prominent at the centre and devoid of epithelium at the edges. Hepatic dulness extends downwards from a line drawn transversely across the abdomen through the umbilicus, and to the left it extends to the epigastrium and left hypochondrium. There is bullying over the lower part of right chest anteriorly, accompanied with tenous of the rectum and tenderness in Sternum.


Vomiting: None, headache, palpity, 12. Bleeding.


29th: Temp. 103°. Fever 98°. 3 ounces of pus and vomit vomited.

Oct. 2nd: Vomited twice last night. Perforation felt at night. Complaint of pain and vomit over the right side of the body. 1.6 ounces of pus.

7th: Duration less diminished. Tongue rough and dry. Airs edge very small.

12th: Had a small, motion last night. Perforated perforation that night. The patient in tenderness to the touch and has a bumpy feeling to the pain in the hepatic region. Gilly warm upper part.

16th: Very few stools and scanty motion last night. Much perforation last night. Pain in epigastrium less. Very little bleeding.

17th: Had no motion last night. Sleepy. Oedema over epigastrium. Perspiration less at night. Urine scale increased, biuret perfect.

Bleeding at his own request.
Case IX:

S. - A man, aged 60 years, a laborer, admitted on the 29th of August, on account of a tumor on the right hypochondrium. The site was about three inches below and extending for about a week, and was treated by native doctors and was relieved. After that he felt a sort of pricking pain in the right side near the lower border of the costal arch. The pain increased in intensity and was accompanied by the swelling, now seen. He felt great difficulty in breathing. His bowels did not act regularly. He took more than 2 or 3 days with much nausea.


Respiratory: - Frequent breathing, very deep, with room for if deeply forced on the center. Hepatic dullness extends from the 6th to 2nd ribs below. The costal arch. No protrusion over the hepatic region with slight pain on pressure.

Cutaneous: - Skin warm and dry, scales at back. Tongue normal. Labia 5. - Turgor of tongue. 99°. The morning normal. Her skin pain over the lower part of the back. Persists next, last night. On exploration the liver with an abdominal needle pin was detected, so an inquiry was made with a history and about 4 times of pin being off.

Died at 9 a.m.

Alcohol opened: 16 ounces for -
12. Patient doing well. No fever or night sweats. Discharge from wound stopped. Bowels regular.

22. Is improving steadily. No fever. No night sweats. The puncture wound has healed up. No pain over his liver.

Bowels regular.


**Case X.**

P.: Hindu - aged 55 years - paroxysmal dyspnoe - admitted on the 26th September for swelling of the abdomen.

Note: That for two years and a half he has been suffering from asthmatic cough attended with quantities of mucous-purulent expectoration. Six months ago he went to country, and while there he was attacked with fever accompanied with slight pain on the right side. About 20 days ago he noted a hard swelling and a sense of fullness in the umbilical region. The swelling gradually increased in size and was accompanied with diarrhoea. His habit are intermitente.

Examination: The patient is weak and emaciated. Eyelids and cheeks sunken. The upper portion of the chest is hollowed inwards.

Respiratory system: Tonsils covered with white fur, and devoid of lymphatic at the edge. Hepato-duodenal line extends from the 7th to the 7th rib, 2 inches below the costal arch and to the middle line. Bowels not move since yesterday. No appetite.

Cutaneous system: Skin warm and dry. Temp: the morning 92.5°.

An empyema was made with a trocar, and then detected.

An incision made with a bistoury, and a sound of various was
obtained away. A drainage tube was then inserted and the
wound dressed antiseptically.

July 28th: Today 5 ounces of drainage from the wound — no evidence
Oct. 1. had a little last night, followed by profuse perspiration.

Bowel motility 3 times. Real to the Calci-alkaline after coma.

2. Bowel scanty and offensive. Complaints of pain in the
side and lower back of the back. Had 3 visits last night. Tongue white.

4. Complaint of pain after the body, has been constant since.
Since yesterday — 12 motions. Offensive, watery, and yellowish without

5. Today a small vessel seems to have ruptured in theINESS, so
there was considerable hemorrhage from the cavity, followed closely
by application of ice. — Bowel moved 3 times today, stools contained
clots of blood. Subject still dead at 10 AM.

Case XI:

Mr. Snyder — age 36 years — occupation none — admitted
this 14th April for tenderness in the right hypochondrium for month duration. Stated that a month and a half ago he had an attack of vomiting which was followed 15 days

12th of April for tenderness in the right hypochondrium attended
with fever and rigors. Pain gradually increased and lasted 2 weeks
enforced the stools several times daily.

Examination: — Face pronounced man, somewhat emaciated

Signature: —
**Digestive System:** - Stomach: darkness extends from 6" to 6" down to about 3" below the margin of the costa and in the mammary line. In the mammillary line it extends to about 4" or rich above the level of the umbilicus - also extends 3" or rich to the left of the median line. Intestines: a mass of feces, masses of mucus, small amount of gas. Body: fair, clean, flat, inelastic, slightly blue, red, flesh firm, bones loose.

**Circulatory System:** - Normal. Pulse felt - compressible.

**Respiratory System:** - None of great 1025 - acid radicals - albumen.

**Blood:** - Temp. 99° F. Urobilin in urine. Measurement:

**Symptoms:**

- Patient is losing flesh daily. Balgum on right side diminished.
- Very little discharge of pus from ulcer cavity.
- There is little or no discharge of pus from the ulcer.
- No pain. Appetite good.
- Sleep well at nights.
- On passing a motion this day a fresh ulcer was opened and numerous masses of scurf and mucus exuded, offensive in smell.
- Contains a little of albumen - does not sleep well at nights.
- No discharge from ulcer today but there has been much discharge of mucus: thick, yellowish offensive pus. No pain whatever.

*May 4th*
May 14. On introducing a probe today into the cavity there was a sudden rush of dark brown densely packed with bubbles of offensive gas. The patient moved much and appeared to suffer pain.

8th. Slight discharge of thick offensive pus from abscess. Had 2 x-thnBold dosage. Right arm - edematous - pain in arm and shoulder, where it was dull.

15th. There was an extraordinary amount of oxygen in the room.

17th. Died this morning at 3 AM.

Case XII:

L. Buddie - aged 32 years. A weaver. Admitted into the hospital for a painful swelling in the right hypochondrium. States he has been suffering from pain in the right hypochondrium. Patient has gradually increased. Persistent pain in the right hypochondrium.

Examination: Patient is much emaciated and very weak.
A large, tender swelling, 3 inches in diameter, extends from the 4th to the 10th rib on the right side. The right hypochondrium is very painful, especially on coughing or during deep breathing. Temp. 101. Pulse 68.

Respiration 20. Affluents bad.

Uriney system: Hume of sp. gr. 1014. Acid urine - no albumen.

July 29th. Tumor was explored with a probe and a canal was found. A vertical incision two inches in length was made.
made and seven ounces of pus evacuated. A dressing-tube was inserted, and the wound covered over with lint soaked in corrosive sublimate笔记中，and bandage - the was done under the spray.

July 30. Little discharge. Temp. 98.4. No fever last night.

Nose a loose vomitus green in colour, tarry with mucous and blood. Pulse 96. Respiration 24.

August 2. Temp. 98.4. No pain. Slept well last night and restful. Tongue very dry. No discharge from nostril.

5 a.m. Discharge still mucous. Temp. 98.4. Very weak & exhausted.

Tongue dry. Noses 3 loose dirty-coloured masses.

8 a.m. Dried thoroughly.

Case XIII

P.: Hunter, aged 30 years. Labourer. Admitted into the Hospital on July 12. For cough and pain in the right knee.

Complaint: Increased by lying on the left side.

Note: About 4 months ago he fell from a ladder. Since then he has been treated with negro following by jades and paroxysms. He is now hottest for cough, and chesty. The pain much increased and appeared also in the right shoulder joint. After this about a month ago he began to cough up fetid fetid chronic yellow masses in large quantities.

Examination: I enema injected and no anemic subject.
Temperature 97.8°F.

Respirations per minute: 24

Feverishness of head; clear; no pain in right hypochondrium. Mean on right side. No pain in left. Deep tenderness and rigidity on the right side; no pain in left. Peculiar sensations in right hypochondrium. Rigidity, deeply sensitive and tender. Rigidity on the right side. Tongue firm.

Respirations per minute: 24

Headache in absence of chest pain.

30th March: 9th: Patient continued much the same until this date. Kept his bed for the most part. coped with fluids. No apparent improvement in the symptoms. No change in the symptoms.

19th: Temp. 99°F. Found difficult to breathe. Carrot washed out. No change in the left. Cough much less. No change in the right.


26th: Patient died worn out and exhausted.