BACILLARY DYSENTERY AND ITS MODERN TREATMENT

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Dysentery is clinically characterised by passage of frequent and insufficient stool which contains mucus and blood (sometimes) and is accompanied by tenesmus and abdominal pain (tormina). The symptoms of Dysentery are the results of inflammatory and ulcerative colitis.

There are two main types of dysentery. viz.:—

(1) The Amœbic Dysentery.

(2) The Bacillary Dysentery.

The Bacillary Dysentery is a highly infectious epidemic disease, caused by the invasion of the intestinal mucosa by a specific bacillus.

There are three distinct types of bacilli that cause bacillary dysentery. They are—

(1) Shigella Shigæ.

(2) Shigella Flexneri.

(3) Shigella Soune.

The dysentery caused by Shigella Shigæ is far more serious than those caused by the other two types.

The disease occurs in epidemics in the subtropical countries and also in temperate climates. In tropical countries it occurs during the rainy season.

The infection is carried to men by food, finger and flies (3 F's). Debility is a predisposing cause. Infants under two years of age and adults of both sexes are particularly susceptible.

The period of incubation is one to seven days.

These bacilli are not found outside the intestinal canal nor do they invade the submucosa of the intestines. The typical lesions are found in the distal parts of the large intestine. The lower third of the ileum may also be affected. These lesions are caused by the toxins produced by the bacilli.

In acute bacillary dysentery there is at first general

hyperæmia of the mucous membrane and there is hyper secretion of mucus. Later there are submucous hæmorrhages and diffuse superficial coagulation necrosis, with "Snail track" ulceration of the transverse fold of the mucosa, forming islands of the granulation tissues (Conybeare). These islands of granulation tissues are of irregular outline and are surrounded by hyperæmic mucous membranes. In severe cases there may be actual gangrene. In cases where gangrene is present the mucous membrane is totally destroyed and the intestine is contracted into a rigid tube containing green and black slough. There are signs of acute toxæmia of other organs of the body. In bacillary dysentery the ulceration spreads round the gut rather than along it.

There are four varieties of bacillary dysentery viz.—(1) Fulminating, (2) Mild, (3) Chronic and (4) Infantile or summer diarrhœa.

The *fulminating* dysentery is caused by shigella shigæ infections. This again may be of two types viz.—(1) choleraic type and (2) gangrenous type. In choleraic type of bacillary dysentery purging, vomiting and collapse are prominent while in the gangrenous type toxæmia and abdominal pain are the most conspicuous symptoms. The *mild* type of bacillary dysentery is caused by the invasion of the intestinal mucosa by Shigella Flexneri bacilli (Flexner-Boyd Bacilli). In this type there is very little constitutional disturbance. Tenesmus and abdominal pain too are only meagre. The chronic type of bacillary dysentery persists more than a month. In this type constipation and diarrhœa alternate. In modern text books the summer diarrhœa of infants are classed with bacillary dysentery and are said to be caused by the Shigella soune bacilli.

The disease commences with a sudden pain in the abdomen and an urgent call to stool. Gradually the colic increases and the temperature rises. The temperature may rise to 102° to 104°F. As the motions become more and more frequent, the stools become less and less fecal and

consist of larger proportions of mucus and bright red blood. Tenesmus, inflammation of the anus and even prolapsus of the rectum increase more and more as the number of motions increases. The motions may number thirty, forty or even more in twenty-four hours. The abdomen may become too tender to allow palpation. If palpation is possible, the colon may be felt.

In cases of fulminating bacillary dysentery, the stools may resemble the washing of meat and may even be serous. In severe cases of fulminating bacillary dysentery, the patients often die of toxæmia, though the number of motions and the constitution of stools be not alarming. High fever, passage of offensive slough, delirium and hiccup are highly ill-omened symptoms.

In bacillary dysentery the abdomen of the patient is found on examination to be tender. Sometimes it is so tender that the patient does not allow the doctor to examine his abdomen. The abdominal muscles are held rigidly contracted. The temperature rises from 102°F to 103°F. The pulse becomes frequent. In severe cases the tongue becomes dry and as a result of toxæmia and excessive dehydration the patient suffers from marked collapse. The urine becomes scanty or else suppressed. The stool consists of little jellylike substance and blood but no fecal matter. Stools are odorless. On microscopic examination, a film of stool is found to contain a few non motile bacilli, many polymorpho nuclear cells some large macrophage cells with engulfed red corpuscles. These cells are to be distinguished from amœba.

The dysentery bacilli may be isolated by culture within a few days of the disease. It is not possible to isolate the bacilli after a week. Blood culture is seldom positive. "A positive agglutination with stock dysentery culture may be obtained after the first week (Beaumont). This is particularly true for shiga-infection cases. "In severe cases the blood urea rises and the alkali reserve falls" (Beaumont).

It is important to differentiate bacillary dysentery from amœbic dysentery and other kindred diseases. In bacillary dysentery the onset of the disease is more acute while in amœbic dysentery it is less acute,—it is rather insidious. In bacillary dysentery, the temperature is characteristically high, while in amœbic dysentery it is rarely high. In bacillary dysentery tenesmus and tormina are always very great, while in amœbic dysentery there may be some amount of tenesmus present, but abdominal pain is rarely present though there is localised tenderness. In severe cases of bacillary dysentery collapse is present, while in amœbic dysentery collapse is not ordinarily present. In bacillary dysentery fæces are absent in the stool and the stool is not offensive, while in amœbic dysentery the stool contains fæces and are offensive. The bacillary dysentery is caused by the specific bacilli mentioned before, while amœbic dysentery is caused by entamœba histolytica, —protozoan parasite. Synovitis and arthritis are complications of bacillary dysentery, while liver abscess is a complication of amœbic dysentery. In bacillary dysentery the tongue is dry, while in amœbic dysentery the tongue is often furred. In bacillary dysentery the stool is akaline, while in amœbic dysentery it is acid. In bacillary dysentery the sigmoid is the most affected part, while in amœbic dysentery the cœcum and the ascending colon are mostly affected. In bacillary dysentery the ulcers are superficial while in amœbic dysentery they are with undermined edges. In bacillary dysentery a large number of pus cells appear in the stool, while in amœbic dysentery pus cells are frequently absent.

Bacillary dysentery is also to be differentiated from colitis, malignant diseases, diverticulitis, polyposis and malarial dysentery. Fulminating dysentery cases caused by the shigella shigæ infection rapidly progress to death. In acute cases the diarrhœa lasts for 7 to 10 days only. Relapses may occur and a condition of chronic dysentery becomes established. The disease may be complicated with

arthritis, parotitis, conjunctivitis, ascitis and constriction of intestines.

Although the proof of exact diagnosis must await a culture of the causative organism, a tentative diagnosis can usually be made, from the cellular characteristics of the exudate and so enable an appropriate treatment to be commenced without delay. (Conybeare).

There is no prophylactic medicine for bacillary dysentery in the Allopathic Science. The disease may be warded off by adopting such measures as will prevent flies from having access to food. Hygienic methods are to be adopted in disposing of the fæces. Those who carry dysentery bacilli should not be allowed to touch food and drink. Milk, water and other drinks should be boiled before drinking. Freshly prepared food is to be used and all articles of food must be kept covered. Fresh fruits should be thoroughly cleansed before eating.

The modern treatment of Bacillary Dysentery consists entirely of the use of sulphonamide drugs alone or in conjunction with antibiotics. Until very recently sulpha guanidine was the drug of choice. This drug is poorly absorbed from the intestines. According to Beaumont, other two sulphonamide drugs, sulpha sunidine and sulpha thalidine (phthalyl sulpha thiozole), of recent origin, are more reliable medicines for the treatment of bacillary dysentery. These three sulphonamide drugs are slowly absorbed from the intestines and do not give rise to real complications. According to the same authority, an average dose of any of these sulphonamide derivatives, for an adult, is 3.5G ($=3.5\times15\frac{1}{2}=54\frac{1}{4}=54.25$ grains) every 4, 6 or 8 hours according to the severity of the case. In my opinion the dose is very high for our country. According to Fairbrother, the dose is much less. He recommends the use of these sulphonamides in 2—4 grains orally at once and then 1 G every 4 hours. This is quite in accord with our experience. A sulpha guanidine tab. weighs .5 G. According to him 4 to 8 tabs are to be used in the beginning according to the

severity of the case and this is to be followed by a repetition of 2 tablets at 4 to 6 hourly intervals. This is exactly what is done in our country. "An attempt," says Dr. Fairbrother, "is usually made to maintain a concentration of some 8 to 12 mg. of free sulphonamide per 100 ml. of blood during the initial stages of treatment, but it is doubtful if such a high concentration is always essential." "Tentative treatment with small amounts of sulphonamides is to be condemned at all times, as the concentration reached under such conditions is too low to be of value and there is the important possibility of rendering susceptible bacteria drug resistant"—Fairbrother.

"It is important that there should be no break in the dosage, patients should be awakened, if necessary, as irregularity of administration may cause the blood concentration to fall below the effective level"—Fairbrother.

Dr. Grollman advocates the use of thalamyd (Phthalyl sulphacetimide) in place of sulpha guanidine, because it is more effective and less toxic than sulpha guanidine. According to him "sulpha guanidine is at present chiefly used for veterinary use for intestinal diseases of animals. Thalamyd too is poorly absorbed from the intestines". It is used as an intestinal antiseptic in the treatment of Bacillary dysentery caused by shigella and other enteric pathogens susceptible to it. It is given in doses of three grains three times daily after meals for 10 days.

When sulphonamides are used in insufficient and inadequate doses the bacteria may become insusceptible to sulphonamides, that is they become "sulphonamide resistant" or "sulphonamide fast". When this condition arises the suitable sulphonamide is to be used in conjunction with the most appropriate antibiotic. Dr. Beaumont suggests the use of chloromycetin (chloramphenicol) and streptomycin. In my opinion streptomycin is the only antibiotic which is most suitable in cases of bacillary dysentery. Penicillin has no action—bactericidal or bacteriostatic—on the Shigella Bacilli, while streptomycin and chloromycetin

have. Streptomycin and sulphonamides act synergistically while chloromycetin may act antagonistically. At best their action is only additive. So, streptomycin is preferable to chloromycetin.

Aconite Nap is an excellent remedy for the first stage of bacillary dysentery. It is useless when toxæmia presents itself. Sudden violent attack, violent abdominal pain, high fever, restlessness, thirst, mental agony, fear etc. are the leaders in the selection of *Aconite*. I cured several cases that simulated bacillary dysentery.

Aloe Soc is another remedy for bacillary dysentery. I cured two cases of confirmed Bacillary Dysentery. Aloe Soc is also useful in chronic cases. Insecurity of rectum, involuntary stool, abdominal pain, bloody, watery stool coming out in a single gush after somewhat prolonged effort, stool hot; these are the key note symptoms of aloe S. In chronic cases the stool is yellowish and of lumpy mucus.

Ars. Alb. is another very important remedy in the treatment of Bacillary Dysentery. I have cured several confirmed cases with it. Ars. Alb. is useful in the choleraic as well as in the gangrenous varieties of fulminating bacillary dysentery. The patient has the following symptoms—

(1) Great mental restlessness, but the patient is too weak to move. Great physical weakness.

(2) Burning all through the body. Chilliness inspite of burning.

(3) Burning thirst but the patient cannot drink much. Water lies in the stomach like a load and is vomited when enough is collected in the stomach (?).

(4) A little stool makes the patient disproportionately weak.

Copper and *Copper Compounds* are very useful in the treatment of Shigella infections. In one epidemic of bacillary dysentery characterised by severe abdominal pain of crampy nature, *Cuprum-sulpho-carbolash* acted as the genus epidemicus and the cases, in which this drug which

had no proving was used entirely empirically and from intuition, were promptly cured. Some of these cases were of confirmed diagnosis. A few years ago I cured several cases simulating the Soune dysentery with Cuprum Ars. 6x.

Ferum Phos. 6x alone or in conjunction with *Kali Mur* 6x cured several cases for me. When tenesmus and tormina were formidable *Mag Phos* 6x was helpful. For the gangrenous type of fulminating bacillary dysentery I know of no better remedy than *Arnica Mont* 200 (Repeated doses). *Kali Phos* 6x alone or conjointly with *Mag Phos* 6x comes next.

Secale Cor 30 is useful in the treatment of bacillary dysentery both choleraic and gangrenous. Some ten years ago I cured a case of bacillary dysentery with Secale Cor 30. The guiding symptoms were—

(1) Cramp of the extensor muscles,

(2) Extreme coldness of the surface with intolerance of covering.

The diagnosis was confirmed by culture. *Carbolic acid* is said to be good in gangrenous cases, but I have no experience with it. *Colchicum* 30 proved useful in my practice in several cases that simulated shigella infection. *Bismuth* in some respects resemble Arsenic Alb. and may be studied in mild cases. *Nicotin* 6 is excellent in cases in which there is lack of reaction due to weakness. Stool and urine are suppressed. The patient is comatose. There is a large accumulation of fluid stool in the abdomen. This is proved by pressing on the abdomen when gurgling is heard all over the abdomen. The radial pulse is scarcely perceptible, vomiting and nausea are present. The patient may or may not be thirsty. The body, specially the extremeties, are very cold but the abdomen may or may not be cold. Nausea is temporarily relieved by cold application on the abdominal parities. The child lies with half closed eyes (?).

In two cases of mine Secale Cor needed to be com-

plemented by Croton tiglium 30 for golden yellow and forcibly gushing out stool.

In cases of serious and moderate dehydration, old school physicians advocate saline transfusion and injection of saline and glucose solution per rectum. In homœopathic practice I never had any occation to do these.

Note:—It is a great blunder that Dr. Roy Chowdhury has omitted to mention *Argentum Nit.*, Belladonna, *Baptisia, Mercurious, Ipecac*, Podo, Pulsatilla, *Pyrogen, Sulphur and Veratrum Alb.*, which are often called for in the treatment of one type or another of Bacillary Dysentery. —*Editor.*

A REVIEW

Solve This Mystery:—A leaflet published by the National Centre of Health Information, South India, supplied free of cost by the Superintendent, St. Joseph's Leprosy Hospital, Tuticorin 16, S. India.

The leaflet, in the form of catechism, supplies some valuable and uptodate information about the dreaded disease, Leprosy. The incidence of Leprosy is alarmingly mounting in India, and there is a legitimate cause for anxiety in public mind, especially in view of the crippling deformity it brings about. The following informations are noteworthy:—

1. Leprosy is not hereditary.
2. About 75% of leprosy cases in India belong to the non-infectious type.
3. Adults are generally immune from leprosy infection and the chances of a healthy partner catching the disease are very remote.
4. Children under five years of age are highly susceptible to leprosy-infection; most cases are infected in the delicate years of childhood, to develop the