

tically undisputed sway in the world, and after all there is not a man of the nineteenth century who can propose a method of treatment, founded upon it, more rational or more efficient than those which were used in the stumbling infancy of the art of medicine. Cælius Aurelianus was as sensible as Dr. Rush, and Celsus was no whit behind Sir Thomas Watson. The most enlightened of its adherents come before the world offering in one hand uncertainty and contradictions, in the other despair. This remarkable paradox I attribute to the fact that, wearied with following the luring *ignis fatuus* of the specific theory, men have come to believe that the nature of hydrophobia is beyond human understanding. The cause of science and the cause of humanity demand, I believe, that we shall let this theory go. It will not be lost. Such things may be trusted to come back. But truth lies at the bottom of a well. And, if we will leave this subject to the generations which shall follow us in a clearer light than that in which we have received it, it must be by sweeping away the marvellous and fabulous features which have come to be accepted as essential parts of it, and by rigorously applying to what is left the well established rules of common experience and analogy. Then, and then only, will it come to be known what hydrophobia is, and how it should be treated.

THE SIGNIFICANCE OF BLOODY DISCHARGES FROM THE BOWELS IN YOUNG CHILDREN.

BY FRANK WOODBURY, M.D., OF PHILADELPHIA.

Read in Section on Diseases of Children, American Medical Association,
May, 1884.

The occurrence of blood in the alvine discharges of a young child, whether in amount large enough to constitute actual intestinal hæmorrhage, or existing only as a few small clots or streaks of blood, is a symptom which naturally excites alarm in the minds of those having it in charge, and usually is the signal for prompt appeal for medical aid. Whether rightfully or not, in an individual case, it may be considered as the rule that this accident in childhood is of much more serious import than in adult life, although in some instances the pathological conditions are identical. On account of the gravity and urgency of the morbid states involved, the opportunity for the exhibition of skill in diagnosis, and the possibility of brilliant results from appropriate treatment, I would regard this class of cases as second to none in interest or importance to the general practitioner of medicine. It was with this thought in mind, that I determined to submit this subject of The Significance of Bloody Discharges from the Bowels in Young Children for discussion to-day. I do so the more willingly because, so far as I can learn, this subject has not been considered at any previous session of this Association, and because many of our text-books

on diseases of children either observe complete silence upon this symptom or make only incidental and altogether inadequate mention of it as complicating certain conditions.¹

Like hæmatemesis, bleeding from the intestines is merely symptomatic; its causes vary greatly in site, nature and gravity. A correct and promptly rendered diagnosis in such cases sometimes furnishes a crucial test of skill in the physician. I need not dwell upon its importance, since we recognize the fact that a few hours' delay may cost the life of the patient. In a case in which the range of remedies is from laparotomy to worm-lozenges, delay and error in judgment are alike dangerous.

The term *Melæna* (*Μελαίνα*) was anciently used to indicate the discharge of a black material from the stomach, or the bowels, or both. Since the action of the digestive fluids upon blood effused into the small intestine, causes it to lose its ordinary physical characters and to change to a black, tarry substance, the propriety of the application of this term to many cases of intestinal hæmorrhage is evident. But, as the blood occasionally preserves its red color; and, on the contrary, black discharges may be due to other causes than hæmorrhage (*i. e.*, the administration of certain substances such as bismuth, animal charcoal, etc.; or, more rarely, to altered secretions from the mucous membrane of the intestinal tract,²) I have preferred to employ the term "bloody discharge," as being more comprehensive than either *melæna* or intestinal hæmorrhage, and being universally recognized as a symptom, will be free from a possible objection on account of being mistaken for the title of a pathological condition.

Blood may also appear in the discharges, from a lesion existing in the stomach, œsophagus, or upper air passages—or even from a source external to the patient, being taken with the food, as when an infant nurses from a cracked and bleeding nipple—but for our present consideration, it will be sufficient to limit the consideration to lesions below the pylorus; and the brief time at my disposal warns me that a few only of the leading diagnostic features of the morbid states concerned can be presented for discussion.

The first question that the clinician, when confronted with such a case, attempts to solve is: What is the site of the hæmorrhage? and secondly: What is its cause? Let us pass briefly in review some of the morbid states giving rise to bloody discharges from the bowel.

Commencing with the lower extremity of the intestinal tube, we recognize several local conditions which may be accompanied by hæmorrhage.

¹It is only just to state that Dr. J. Lewis Smith, of New York, in his admirable work on Diseases of Infancy and Childhood, gives the best consideration of this subject that I have met with among our systematic treatises.

²In a foot-note to the article on *Melæna* in Copeland's Dictionary of Medicine, New York, 1846, vol. ii, page 954, a case is reported of an anæmic child, three months old, which had *melæna* without intestinal hæmorrhage: there were black discharges during life, and found after death along the whole course of the intestines, which was apparently a morbid secretion from the mucous follicles. The condition appeared to be an abnormal excretion of carbon, in some way dependent upon a congenital absence of the gall-bladder and hepatic ducts.

In cases where a doubt exists as to whether the black material excreted contains blood or not, the question may be solved by simply diluting the discharge with water, which will bring out the red color of the hemoglobin if it be present. The microscope or the spectroscope will furnish the decisive test of the presence of blood.

Venous hemorrhoids may occur in young children. These may be examples of nævus, or may come under the class of internal hemorrhoids. Notwithstanding the fact that cases of supposed piles in infants usually prove to be polypi upon closer investigation, Allingham¹ reported a case, in a boy three years of age, which had bloody discharges from the rectum, and upon examination, thin vascular piles were found to be the cause of the bleeding. Sedgwick² and Syme³ have also called attention to the possible existence of piles at an early age of life. Condylomata need not be confounded with hemorrhoids; these are not rare in children, and may be caused by irritation, uncleanness or worms; they are not necessarily due to syphilis.

Fissure of the rectum is a rare cause of bloody discharges in children. Allingham mentions a case in a boy 4½ years of age.

Prolapse of the rectum is less frequently accompanied by bleeding in children than in adults, but it is sufficiently common to warrant consideration. It is usually caused by weakness of the sphincter, following prolonged diarrhœa; or it may be due to constant straining, caused by a reflex irritation, such as from a stone in the bladder, a contracted prepuce, or polypus.

Polypos of the rectum is more frequent in children than is generally supposed, and is usually announced by recurrent attacks of bleeding. Bryant⁴ says that it is the principal cause of hæmorrhage from the rectum. Therefore, repeated attacks of intestinal bleeding should lead to a direct examination of the bowel. When found, the polypus may be broken off by the finger nail without inducing hæmorrhage. Its usual site is inside the internal sphincter, from two to six inches within the bowel. The pedicle may be several inches in length. Gross⁵ recommends seizing the tumor with the forceps, if not very vascular, and removing it by torsion; if vascular in its appearance, "the safest plan is to tie it and let it slough off." It is reported that Bryant saw twenty cases, all in children less than two years of age, which were operated upon successfully.⁶

Foreign bodies may cause ulceration and hæmorrhage; various substances, such as pieces of bone, glass, oyster shell, etc., may be forced or impacted in the rectum, either swallowed by the child or introduced into the rectum, by mishap or malice.

Traumatism. Bearing in mind the facility with which fatal hæmorrhage might be induced by wounds of the intestine and adjoining structures, it might be the means employed for criminal purposes. In cases of acute hæmorrhage from the bowel, in a child hitherto healthy, local examination of the part, both before and after death, should not be neglected.

It may be proper to say here that a hæmorrhage may be sufficiently profuse to cause death, may occur without any discharge of blood externally. J. L. Smith

refers to a case (Bidnar) of a boy 11 days of age, in which the skin rapidly became yellow and cool, respiration scarcely perceptible. He died on the twentieth day of exhaustion, and it was found that the symptoms were due to a concealed intestinal hæmorrhage.

In *dysentery and entero-colitis* of sufficient severity, blood will often appear in small quantities in the stools during the height of the inflammation; where it occurs in larger quantities it indicates ulceration, and in chronic colitis the discharges may consist of pure blood. Without stopping to discuss the parasitic nature of ordinary dysentery, I would notice that *mycosis* has been assigned as the cause of dysentery with bloody discharges. Lambl reports the case of a child 2 years old, which died of enteritis and hæmorrhages from its intestines, where *ameba coli* were considered to be the cause. Experiments made by Löscher favor the view that the dysentery in such cases is primary, and that the amœbæ appear later and maintain the morbid state. We are without information as to the source of the amœba.

Intestinal worms have been mentioned as causing the appearance of traces of blood in the discharges, mixed with mucus.

Intussusception of the bowel, either by descent of part of the ileum through the ileo-cæcal valve, or elsewhere in the course of the bowel, is very commonly accompanied by bleeding. This symptom, in a case of constipation, obstinate vomiting, with tender, swollen abdomen, in which there is a sausage-shaped tumor may be felt in the course of the bowel, indicates the occurrence of an intussusception. In such cases the injection of large quantities of warm water will usually be successful in reducing the invagination. Etherization by the rectum might be useful, followed by distension of the bowel by air. The knee-elbow position will materially assist the enemata in restoring the bowel to its normal relations. Should these measures fail, after several attempts, laparotomy offers better chances of recovery than to wait for the sloughing of the intestine, which sometimes does occur. Although early operation by modern methods of opening the abdomen, generally offers good prospects of success, yet this result can not always be promised. Godlee¹ reports a successful case in an infant of nine months, in two others the patients died. He calls attention to the fact that the intussusception does not always begin at the ileo-cæcal valve; although, according to Bryant, (*loc. cit.*), this is the most common site in infancy and childhood. The condition may be gradually established without interfering greatly with peristalsis and defecation, or it may rapidly give rise to symptoms of complete obstruction of the bowel. Such acute cases have urgent symptoms and require, usually, early operation. In the former, prompt operation is not so imperative. Mr. Hutchinson, of London, opened the abdomen of a child, two years of age, on the thirtieth day of the symptoms, and restored the invaginated bowel with a successful result.²

Ulceration of the small intestine may be due to

¹Diseases of the Rectum.

²London Medical Record, 1867, v. i, 495.

³London Medical Record, 1853, vol. ii.

⁴Practice of Surgery (American edition), Phila., 1881, p. 537.

⁵System of Surgery, 1872; vol. ii, p. 648.

⁶Dictionnaire de Med. et de Chirurgie Pratique, vol. xix. Article on Intestinal Hæmorrhage.

¹Clinical Societies Transactions, vol. xvi, p. 55.

²Med. Chir. Transactions, vol. lviii, 1874.

sloughing of necrosed follicles in the course of simple catarrhal inflammation, or it may be tubercular in its origin. In the course of tubercular meningitis, tubercular ulcers may occur in the bowel; and in tubercular peritonitis the occurrence of diarrhœa and offensive stools, with the discharge of blood in small clots, is very suggestive of accompanying ulceration of the bowel (Eustace Smith¹).

The occurrence of such a hæmorrhage may give rise to the suspicion of typhoid fever being present, but the clinical history of the case will afford the means of distinguishing the two diseases.

The preceding conditions have been, principally, those referable to definite lesions of the large and small bowel. We shall now consider a few disorders less localized in their nature.

Congestion of the mucous membrane, with or without accompanying catarrhal inflammation, is quite common in young infants, and occasionally causes bloody discharges. This congestion may also be secondary to diseases of other viscera. Mosler states that chronic diseases of the spleen are liable to be complicated with diarrhœa. He also says: "The phenomena of irritation of the intestinal mucous membrane are produced in leucocythæmia and its allied conditions by the accompanying lymphoma. At other times it is a congestive catarrh of the intestinal mucous membrane. The stools contain large masses of mucus and pus, and are not infrequently mixed with blood; dark, tarry blood is evacuated from the stomach, as well as from the intestines. (Ziems en, Encyclopædia, vol. viii, p. 373).

Hyperæmia may be due to disorder of the liver or its imperfect development. Hepatic cirrhosis has been observed in young children, as a cause of intestinal hæmorrhage, by Reynolds,² Murray,³ and others. Weber met with a case in a new-born child.⁴ Occlusion of the portal vein is also noted as a possible cause by Budd.⁵ Embolism of the umbilical vein and its branches causes congestion of the intestines by obstructing the portal circulation. Lederer reports eight cases of intestinal hæmorrhage from this cause, five of which were also accompanied by umbilical hæmorrhage.⁶ Embolism of the branches of the umbilical vein may also lead to the formation of small ulcers in the intestinal tract.

There still remain for consideration the class of cases in which the pathological condition is not well understood. It may be connected with some disorder of the blood. Here may be appropriately considered those peculiar cases of hæmorrhage from the bowel coming on in the first few days of life, generally from the first to the sixth day, which are known as *melæna vera* or *melæna neonatorum*.

Attention has been pointedly directed to these by Billard,⁷ Croom,⁸ Rilliet and Barthez and others. The following will serve as an illustration: A female

child of healthy parents, born after an easy labor, was apparently well until 35 hours after birth, when an intestinal hæmorrhage occurred, and the little patient died, ten hours later, of exhaustion. At the post-mortem no cause for the hæmorrhage was found; no trace even of organic lesion was detected.¹ In such cases the congestion has been attributed to a plethora, and it has even been recommended that the ligature be removed and some bleeding be allowed from the umbilical cord in order to relieve this hypothetical condition (Billard). It is more probable, however, that the intestinal congestion is caused by collateral hyperæmia associated with some disturbance of the lungs or heart; for Ebstein has found that suspension of respiration in animals produces congestion and extravasation of blood and ulceration in the mucous membrane of the alimentary canal. Of twenty-two cases reported by Rilliet and Barthez, twelve recovered. Probably, as suggested by Day, some of these were cases of pressure of the child's head during tedious labor, and congestion of the venous system from the difficulty in establishing respiration at birth.

Cases of enterorrhagia attributable to *hæmophilia* have been published by Laycock,² Sedgwick,³ Gould,⁴ Huss,⁵ Cousin,⁶ and others.

In such cases the peculiarity is generally known to exist in some other member of the family.

Some cases of *melæna neonatorum* seem to be really due to *purpura hæmorrhagica*; and a number of authorities have given weight to the opinion that in others it may be due to a general cachexia, associated with syphilis. There is good reason for doubting, however, that syphilis in the parents can cause the hæmorrhagic diathesis in the child.⁷ Such cases are probably secondary to disease of the blood-vessels, or liver, or both.

Blood sometimes occurs in the discharges during the specific fevers from congestion or ulceration of the mucous membrane. It is only of late years that typhoid fever has been generally acknowledged as occurring in infancy, although Rilliet called attention to it in 1840. (Thèse de Paris, 1846).

Typhoid fever sometimes occurs within the first year of life, but is rare until after the expiration of the second year, being more frequent between the ages of eight and eleven years. Still, Meigs and Pepper have met with well-marked instances at the age of 18 or 20 months.⁸ Typhoid fever ulceration being unusual in children, this must be a very remote cause of the appearance of blood in the discharges.

Attention has recently been directed to cases of visceral rheumatism in the adult. I met with a case last year in a child, which I may briefly mention. It was that of a boy about 8 years of age, who, during the progress of an attack of acute articular rheuma-

¹ Clinical Studies of Dis. of Children. London, 1876, p. 277.

² Medical Times and Gazette, 1866. Vol. i, p. 35.

³ Lancet, 1863, Vol. ii, p. 225, and 1875, vol. i, p. 698.

⁴ Steiner, Diseases of Children, by Lawson Tait.

⁵ Medical Times and Gazette, 1860. Vol. i, p. 593.

⁶ Quoted by Smith *loc cit*, from Zeitschrift für Kinderheilkunde, 1877.

⁷ London Medical Record, 1853. Vol. ii, p. 115.

⁸ Medical Times and Gazette, 1880. Vol. ii, p. 480.

¹ Medical Association Journal, 1854. Vol. i, p. 532.

² Med. Times and Gazette, 1862, vol. i, p. 152.

³ London Med. Record, 1861, vol. ii, p. 206; 1867, vol. i, p. 492.

⁴ Med. Times and Gazette, 1858, vol. i, p. 19.

⁵ London Med. Record, 1867, vol. i, p. 492.

⁶ Med. Times and Gazette, 1869, vol. ii, p. 277.

⁷ Peterson. Ueber Syphilis Hæmorrhagica Neonatorum. Vierteljahrs. für Dermat. u Syphilis, 1883, p. 509.

⁸ Practical Treatise on Diseases of Children. Philadelphia, 1877, p. 827.

tism, at about the fifth day was seized with obstinate constipation, with discharge of blood from the bowel. This, with the occurrence of vomiting of everything taken into the stomach, even of small quantities of ice-water, and great restlessness, led me to suspect intestinal obstruction. A tender spot was found in the left hypochondrium and near the umbilicus, but no well-defined tumor was detected. He was treated by morphia by the mouth, and by large hot water enemas, which were returned tinged with blood. The third or fourth injection was followed by fecal discharge, and the condition was relieved. The patient recovered finally, and was seized with chorea during convalescence. If there was actually an intussusception in this case, I believe that it was favored if not caused by a local manifestation in the intestine of the rheumatic poison.

I trust that in bringing to a conclusion this hasty review of an important subject, we are impressed by the variety of the conditions upon which these bloody discharges may depend, and especially by the necessity of careful physical explorations where the symptom persists.

DISCUSSION.

Dr. J. Lewis Smith said the pathological state is different in the different diseases. The most frequent and common causes (when not mixed with mucus) are purpura hæmorrhagica and intussusception. The latter is an important matter. There is none more important in diagnosis. This occurs chiefly at the ileo-cæcal valve, or it can occur at some point below, become wedge-shaped, congested, and blood oozes. There are two common points. These may either be at lower part of ileum or in the colon. Congestion becomes so great that hæmorrhages occur. The color of the blood is dark-red, with mucus. When tenesmus is present, it can be mistaken for dysentery. Instead of mucus, pure blood can be discharged every few moments with tenesmus. This disease must be recognized early, as the diagnosis is of importance. In these cases, warm water injections into the rectum is good treatment. The diagnosis can be made without a tumor being present, by blood appearing without mucus.

The next principal cause—*morbus maculæ* or purpura hæmorrhagica, is most common in large cities and hospitals, among broken-down and cachectic children, but is also found in well nourished ones from six to eight months old. The changes occur in the capillaries and not in the blood. This is the true condition, as is proved by microscopical examinations. Blood is allowed to transude. Knows no case where hæmorrhages resulted from worms, but this could take place where the bowels were ulcerated and the worms irritated the places so diseased. Typhoid fever occurs in children, but ulceration in children, as a rule, is not sufficient to give rise to hæmorrhages. In the majority of these cases there is no tenesmus.

Dr. S. S. Adams said that Dr. Woodbury failed to bring out the important point of the dangerous period of these bloody discharges. He said that the cessation of the bloody discharges was really the signal of danger. He said that some time since, Dr. Busey wrote an admirable paper on "Thrombosis of the

Sinuses of the Dura Mater in Fatal Cases of Dysentery in Young Children," in which he showed that when the blood ceased to appear in the stools, then the critical moment arrived. Dr. Adams had superintended the post-mortem examinations made in the cases cited, and, as Dr. Busey had expected, thrombi were found in the sinuses. In such cases as Dr. W. had cited, the stimulation should be begun early and diffusible stimulants freely administered. In young children, the fontanelle is our guide. So long as it is depressed, we need have no fear in freely stimulating. Whiskey, camphor, or ether should be given.

Dr. Fry remarked that he had noticed during attacks of entero-colitis, that the occurrence of hæmorrhage from the bowels marked a favorable epoch in the disease. It probably acted by depurating the congested mesenteric vessels.

Dr. Woodbury. The time was not long enough to go into the subject more closely. Would recommend digital examinations in all cases.

ON THE TREATMENT OF TYPHOID FEVER.

BY S. K. JACKSON, M.D., NORFOLK, VA.

Read in Section on Practical Medicine and Materia Medica, American Medical Association, May, 1884.

My apology for occupying the valuable time of this Section must be found in my conviction of the importance of the subject I propose to discuss. I know it is thought trite and hackneyed, but the discussion of it cannot be considered as finished until there be a better agreement among us as to the treatment of this disease, or until the mortality from it is diminished much below its present rate. It is claimed to have been reduced from the 18 to 20 per cent. of a half century ago to 10 or 12 per cent. ; but these lowest figures are still too high, and it is to be hoped that the profession will not be satisfied until there is a much greater reduction.

My object is not to boast of any great success in managing this disease, but merely to call attention to a line of treatment which has furnished results very different from the recorded experience of others ; a treatment suggested by the recognition of several pathological conditions, which, though long since demonstrated and, I believe, generally admitted to exist, have been entirely ignored by the profession when looking for indications of treatment.

To prove this assertion it is only necessary to enumerate the various means at different times resorted to for combating this disease ; means not only not indicated or called for, but oftentimes actually injurious.

The limits of this paper will permit me to recall but a few of them. Blood-letting, urged by Louis—free evacuations—tartarized antimony—calomel—then the "expectant" plan of treatment, the do-nothing plan, leaving all to nature—then follows the suggestion of phosphoric acid as a febrifuge—next came the alum treatment of Barthez—then the confi-