The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

VOL. XLVII.

CHICAGO, ILLINOIS, OCTOBER 13, 1906.

No. 15.

Original Articles

HEMORRHAGE IN THE NEWBORN.*

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OMAHA.

Hemorrhage in the newborn is either traumatic or spontaneous.

Traumatic Hemorrhage.—When hemorrhage occurs during the first twenty-four hours after delivery it is usually traumatic. In the class of traumatic hemorrhages are to be included the following: Cephalohematoma, hematoma of the sternocleidomastoid muscle, hemorrhage beneath the skin, intracranial, intra-abdominal and intrathoracic. Intracranial hemorrhage, if extensive, causes death at birth, or the infant may breathe feebly for a few moments and die. If less extensive, there are no immediate symptoms, but paralysis later. Intra-abdominal hemorrhage can usually only be surmised, and in an infant large and strong at birth, dying within a few hours, with evidences of shock, intra-abdominal hemorrhage should be suspected; but the diagnosis can be confirmed only by autopsy. Hemorrhage of the lungs is certainly rare, but I have one case, reported herewith (Case 6).

Spontaneous Hemorrhage.—In spontaneous hemorrhage the blood may be from any mucous surface or beneath the skin. By combining the statistics of Ritter of Prague, Townsend of Boston, Abt of Chicago and those herein reported, the source of the hemorrhage is as follows: Umbilical, 161; intestinal, 66; mouth, 49; stomach, 37; conjunctiva, 20; ears, 10; nose, 16; ecchymosis, 27; lungs, 1; vagina, 2. It should be understood that in many of these statistics the hemorrhage was from more than one point, but that the chief source of hemorrhage is mentioned.

Duration.—Almost all cases begin within the first ten days of life. Of 75 cases reported by Dusser, the hemorrhage began on the first day in 24, on the second in 22, on the third in 9, and from the ninth to the twelfth day in 10 cases. In the majority of cases nothing is noted as abnormal about the infant until hemorrhage appears. As a rule, the amount of blood is not large, but the danger to life resides in the fact that the hemorrhage is continuous.

In reported cases the temperature varies. It should be remembered, however, as pointed out by Holt, that the temperature varies greatly in the first days of life in the normal child.

Hemorrhage from the umbilicus usually begins later than hemorrhage from other sources. Almost all cases from this source occur from the fourth to the seventh day, and nearly always after separation of the cord. Cases of hemorrhage from the slipping of the cord dur-

ing the first day of life are not included. Hemorrhage from the umbilicus is almost always parenchymatous; very few cases of gush of blood being reported. Cases may terminate fatally within twenty-four hours, and patients seldom live more than two or three days. Roch, in the first edition of his text-book, however, reports one case where the oozing continued for 18 days, the child recovering. This same infant was later on circumcised without undue hemorrhage occurring.

Hemorrhage from intestinal canal usually occurs early, that is, within the first three days. The blood, whether from the mouth, stomach or bowels, may be either dark or light in color.

Hemorrhage beneath the skin consists of petechial purpuric spots or, in a few cases, of large hemorrhagic areas. Hemorrhages from the bladder, as will be noted in the statistics, are very rare. Slight hemorrhage from the kidneys, due to uric-acid infarctions, occurs in a few cases. Hemorrhage from the ears is either from the external meatus or the middle ear. Hemorrhage from the female genitals, when occurring alone, is not serious. Cullingham has collected 32 cases of hemorrhage from this source with no deaths.

Prognosis.—Prognosis in hemorrhages of the newborn is very grave. Townsend of Boston has collected 709 cases, with a mortality of 79 per cent. In private practice each case should be a law unto itself and no case should be looked on as absolutely hopeless while life endures.

Hemorrhage and Hemophilia.—Hemorrhage in the newborn does not appear to bear any relation to hemophilia. Grandidier has collected a series of 576 hemophiliacs, and in but 12 of these cases was there a history of bleeding in early infancy, so that patients that recover show no tendency to bleeding in later life.

Hemorrhage in the newborn is a comparatively rare disease. In the Boston Lying-in Hospital there were 32 cases out of a total number of 5,225 births, or 6/10 of 1 per cent. In the Lying-in Asylum of Prague, in 13,000 births, there were 190 cases of hemorrhage, or 1.4 per cent. In the Foundling Asylum of Prague, reported by Epstein, there were 8 cases out of a total of 740 births.

Etiology.—The etiology is obscure, and hereditary syphilis is considered an important predisposing cause. In 132 cases of syphilis reported by Mracek, hemorrhage occurred in 17, or 14 per cent. In 13 cases carefully studied by Abt, there was a history of syphilis in only 2, and the last several years at the Child's Saving Institute I have seen a number of cases of hereditary syphilis, but have not seen a case of hemorrhage in any of them.

Hemorrhage in the newborn is probably due to some change in the blood or in the blood vessels. That it is a specific condition seems entirely probable from the fact that it is more frequent in lying-in institutions than in private practice, that it is a self-limited condition, ter-

* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

minating in death or a complete recovery, and that it does not tend to recur. In hemorrhage in infants, after the first ten days of life, it seems entirely probable that septic infection is the usual cause.

Treatment.—The important principles of treatment in these cases are: 1. To control the hemorrhage as far as this is possible. 2. To aid the nutrition of the child in every way. 3. To maintain body heat. Details of treatment will appear in the report of the cases.

Under the head of traumatic hemorrhage I report the following cases: Cephalohematoma, 5 cases. Three of these were seen in consultation. The diagnosis is usually simple, and is based on the location of the tumor, the bony ring that forms around the periphery of the mass, and the absence of pulsation. In one of these cases considerable deformity remained owing to the proliferation of bone cells. In one of the cases seen last July an incision was made and the clot turned out. This case made a prompt and rapid recovery. I suggest the propriety of this treatment in this class of cases. I have seen four cases of hematoma of the sternocleidomastoid muscle. In one of these cases there remained for several months a slight torticollis due, as I believe, to the shortening of the muscle. One case of cutaneous hemorrhage occurred in the left gluteal region and occupied an area of about four inches in diameter. The mass of blood was gradually absorbed. It was a slow breech presentation.

CASE REPORTS.

I report the following cases of spontaneous hemorrhage:

CASE 1.—Referred by Dr. Ewing Brown, and was seen Sept. 18, 1898. Child normal at birth. Hemorrhage began at the umbilicus the sixth day of life after separation of the cord. When I saw the child there was constant oozing. I applied a piece of absorbent cotton dipped in Monsel's solution; over the entire abdomen I placed a mass of dough, held in place by means of roller bandage. The oozing continued and the child died the following day from exhaustion. In this case the temperature was subnormal and there was no evidence of sepsis.

CASE 2.—In this case umbilical hemorrhage began on the fifth day of life after separation of the cord. When I saw the child the bandages of the body on which it was lying were soaked with blood. I adopted the following treatment: A piece of cotton saturated in a 1 to 5,000 adrenalin-chlorid solution. This was packed in the umbilical fossa. A thick piece of gauze 4 inches in diameter was dipped into a gelatin solution made by boiling Cox's gelatin in water until the solution was about the consistency of glycerin. The gauze was thoroughly soaked in this solution and applied over the cotton. This was retained in place by a roller bandage applied a number of times around the abdomen. While this dressing all became saturated in the course of a few hours, the hemorrhage seemed to cease. The dressing was left in place 36 hours and then removed. There was no further hemorrhage and the child recovered.

CASE 3.—Patient was seen Aug. 16, 1901, in consultation with Dr. W. L. Curtis. The child was normal at birth and nothing unusual was noted until it was 30 hours old, when, as the child was taken from the mother's breast, she noted a large clot of blood lying below the mammary gland.

Examination.—Examination revealed that this came from the child's mouth and not the mother's nipple. I saw the child on the evening of the second day. There had been some further oozing from the mouth and also two bowel movements containing blood. The shock was not extreme. The lips were fairly good color and we gave the parents some encouragement.

Treatment.—Patient was given adrenalin extract, one-fourth grain every three hours. Warm water bottles were placed to the extremities. The mother's milk was drawn from the breast and fed to the infant with spoon, as we feared the act of suction might increase the hemorrhage from the mouth.

There was one bowel movement the following morning containing a considerable amount of dark, clotted blood, but from the third day on the child continued to improve. At the end of a week it began to gain in weight. In its second summer this child had a protracted course of bowel trouble from which it slowly recovered. At the present time it is living and well.

CASE 4.—This child was seen at Fort Crook, and I quote as follows from the nurse's report: "Infant, female, born Oct. 6, 1904; weight, 9 pounds; healthy and vigorous. When 24 hours old there were signs of prostration and the child gave occasional sharp cries. When 30 hours old there was a profuse hemorrhage from the bowels containing some large clots of blood. The feet were elevated, small doses of ergot given by mouth, adrenalin chlorid with salt solution by the rectum, plenty of water and nourishment given by the mouth. Twenty-four hours later another profound hemorrhage occurred with shock. Pulse could not be felt. Fontanelles depressed. Respiration distinctly Cheyne and Stokes. Small doses of bismuth with hydrastis were given by the mouth. Normal salt solution was given by hypodermoclysis. There was no temperature at any time, no tympany, no further hemorrhage. The child made a rapid recovery." This patient is now in my care for an umbilical hernia and has never had any hemorrhage and is in every way a normal child.

CASE 5.—This child was born prematurely. The mother had been under my care for some months before confinement. She went into labor on the morning of Jan. 5, 1905, and as it was not possible for me to be with her during the day, Dr. Ellis very kindly took charge of the case. He reported to me late in the afternoon that the cervix was well dilated and the head down on the perineum. We met at the patient's house at 5 o'clock and decided to apply the forceps. Delivery was accomplished with very little difficulty.

I left the patient in charge of Dr. Ellis and did not see her again. Dr. Ellis reported to me as follows: "The child, a male, was born at 5:30 p. m., Jan. 5, 1905; normal presentation, forceps delivery; weight, 8 pounds. The child cried lustily and appeared in every way normal. There was great difficulty in controlling the hemorrhage from the cord, as it had to be tied several times during the first hour. I saw the child again at 10 p. m. of the same night and found it bleeding profusely from the mouth, death occurring within half an hour from the time the bleeding started from the mouth. I can not say absolutely whether the hemorrhage was from the lungs, stomach or mouth. The blood was a bright color, however." This case illustrates the fact that a child may simply die from loss of blood within a very short time.

CASE 6.—The following case (twins) was reported to me by Paul H. Luddington, Omaha, Neb.

Family History.—One child living in good health, aged 4. There has been no miscarriage. Husband is apparently in perfect health. No specific history was obtainable.

The case was uneventful except for the large amount of liquor-amnii. Labor began at 11 p. m., June 23, 1904. Progress was normal. At 3:45 a. m. a child was born, normal presentation, cord very thick. In 15 minutes the second child was born in foot presentation. This child was slightly asphyxiated but easily revived. A single placenta, usual delivery. This patient did not expect to be confined until six weeks later, although the date was uncertain. Children were both males, weighing about 6 pounds each, perfectly formed.

The following day both children were seen by me and appeared normal except weak and puny. Seventy hours after birth the aunt of the children noticed one of them looking cold and picked it up. The child gasped, spit up a mouthful of bright red blood and died.

Autopsy.—Twelve hours after death. Abdominal cavity normal. Head not examined. Left lung entirely filled with blood. No blood in pleural cavity. One section of lung filled with blood and very little air escaped. Left lung normal.

In this case it does not seem probable that the hemorrhage could have been due to traumatism, but was spontaneous due to inherent weakness of vascular supply to lung.

DISCUSSION.

DR. ISAAC A. ABT, Chicago, agreed with Dr. McClanahan in his examination of cases. It is pretty well established that all young infants have a tendency to bleed on rather slight provocation. It can hardly be gainsaid that hereditary syphilis plays a certain rôle in the etiology of these hemorrhages. Another etiologic factor is infection, either of the ordinary pyogenic microorganisms, the streptococcus, staphylococcus or even the colon bacillus. This is particularly shown in clinics abroad. The traumatic cases do not belong to the same class as those of spontaneous hemorrhage in which the hemorrhage is under the skin. In his own cases he doubted whether the loss of blood was sufficient to cause death. It seemed that the children died rather from the attending sepsis than from loss of blood. In no case was loss of blood very marked, being more of an oozing of the mucous membranes, kidneys and bowels.

DR. J. C. LITZENBERG, Minneapolis, reported a case of hemorrhage from the mouth and bowels 36 hours after birth and showing symptoms of extreme prostration which he did not think due to the amount of hemorrhage. The child died when 50 hours old. A postmortem was held and careful bacteriologic examination made. From the cardiac opening of the stomach to the rectum were small submucous hemorrhages gradually growing larger as the small and large intestines were dissected through into the rectum. The bowel itself contained a quantity of blood, and the bacteriologic findings of cultures taken from the hemorrhagic spots showed a pure culture of the bacillus of Friedlander. He thought the real cause of death, as the last speaker said is often the case, was not the amount of hemorrhage, but the sepsis, because a lobular pneumonia was found in which was a pure culture of the bacillus of Friedlander.

DR. MALINDA K. GERMANN, Quincy, Ill., reported a case of fatal hemorrhage in a child. The delivery was slow, but there was nothing abnormal about the labor. Immediately after birth, however, the child had a profuse hemorrhage of the nose and mouth. The cause was probably in some inherent abnormality of the vascular system of the lungs, for Dr. Germann believed death was caused by the hemorrhage.

DR. EFA DAVIS, Chicago, called attention to toxemia in the mother as a cause of hemorrhages in the new born. The toxemias of pregnancy are so varied and often of such mild degree that a careful inquiry must be made to ascertain their presence previous to the delivery, but knowing how profoundly the child may be affected by such a condition, even to the point of death *in utero*, it is worth while to inquire along this line in otherwise puzzling cases. Dr. Davis has seen several which she attributed to such a condition.

DR. MCCLANAHAN believed that the majority of the deaths are not due to the loss of blood, but to the septic condition which induces hemorrhage, although in two cases he had reported that death was due to the hemorrhage. Unfortunately, bacteriologic tests were not made and he, therefore, did not allude to that subject. He is rather inclined to limit the cases of hemorrhage in the new born in which death is due to the loss of blood. Again, while the loss of blood may not seem dangerous to life, yet the condition may be exceedingly dangerous because of the probably infectious nature of that which produced or induced the hemorrhage.

Submucous Septal Resection.—Mouret and Joubert, in their report on the treatment of septal deviations to the French Society of Laryngology (*Arch. Internat. de Laryngologie, etc.*, xxi, No. 3, suppl., May-June, 1906), hold that among all the operative methods only one is adaptable to all cases, namely, the submucous resection. If not done too timidly and if all the deviated portions are removed, it gives invariably an excellent result, and it is the only procedure applicable to deep osseous deviations. They consider the operation delicate and laborious, but they say that it is easily borne by the patient and gives a perfect result as regards nasal permeability. It also corrects in an esthetic point of view certain external deformities and is generally as well adapted as any other method.

BENIGN CYSTIC EPITHELIOMA.

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PHILADELPHIA.

Benign cystic epithelioma has been reported under a variety of titles, all of which were designed to describe, more or less closely, the pathologic changes of the individual case under consideration, or to describe the views held by the individual making the report. Cases of cutaneous epithelium have been described under a variety of captions, and among these titles are to be found hydradenoma, hemangio-endothelioma, syringocystoma, epithelioma adenoid cystium (Brooke¹), tricho-epithelioma (Jarisch²), akanthoma adenoides cystium (Unna) and benign cystic epithelioma (Hartzell³). Following the suggestions of these writers, White,⁴ Balzer and Ménétrier,⁵ Balzer and Grandhomme,⁶ Phillippon,⁷ Wolters⁸ and Hartzell³ have added examples of this clinically benign form of epithelioma. From the literature⁹ we have been able to collect references to but twenty-four reported cases and special articles discussing benign cystic epithelioma.

Patient.—Miss J. E., aged 22, American, complained of no subjective symptoms; her appetite had always been good and the bowels regular. She first menstruated when 13 years of age and her menstrual periods have been regular since, not painful, and of the 28-day type.

1. Brooke: "Epithelioma adenoides cystium," *Monats. f. prakt. Derm.*, 1892, vol. xv, p. 589.
2. Jarisch: "Zur Lehre von den Hautgeschwulsten," *Archiv. f. Derm. u. Syph.*, vol. xxviii, p. 163.
3. Hartzell: "Benign Cystic Epithelioma," *Amer. Jour. of Med. Sci.*, Philadelphia, September, 1902.
4. White: *Jour. of Cutaneous and Genitourinary Diseases*, 1894, p. 477.
5. Balzer and Ménétrier: *Archiv. de physiol.*, 1885.
6. Balzer and Grandhomme: *Ibid.*, 1886.
7. Phillippon: "Die Beziehungen des Kolloidodium (M. Wagner), der kolloiden Degeneration der Cutis (Besnier) und des Hydradenoms (Darier-Jacques) zu einander," *Monats. f. prakt. Derm.*, vol. xi, 1890, No. 1.
8. Wolters: "Epithelioma adenoides cystium," *Archiv. f. Derm. u. Syph.*, vol. lvi, 1901, p. 90.
9. In addition to the authors cited in the article other references may be consulted as follows: Jaquet de Darier: *Annal. de Derm. et Syph.*, 1887, vol. xi, No. 8, p. 317; Quinquand: *Congrès international de dermatologie de Paris*, 1889, and *Monats. f. prakt. Derm.*, vol. ix, p. 20; Török: "Das Syringocystadenom," *Monats. f. prakt. Derm.*, vol. viii, p. 116. Hoggan: "Zur pathologischen Histologie der schmerzhaften subcutanen Geschwulst," *Virchow's Archiv.*, vol. lxxxii, p. 233, and *Jour. of Anat. and Phys.*, 1884. Petersen: "Ein Fall von multiplen Knäueldrüsen- und unter dem Bilde eines Nävus verrucosus unius lateris," *Archiv. f. Derm. u. Syph.*, 1892, vol. xxiv, p. 919 and "Beiträge zur Kenntniss der Schweissdrüsenkrankungen," *Ibid.*, 1893, p. 441; Bernard: "Contribution à l'étude du syringocystadénome," *Thèse de Paris*, 1897; Knauss: "Eine Geschwulst der Schweissdrüsen (Cylinderepitheliom)," *Virchow's Archiv.*, vol. cxxvi, p. 561; Bartel: "Ein Fall von Cystadenoma papilliferum der Schweissdrüsenausführungsgänge mit Hypertrophie und cystenbildung der Schweissdrüsen selbst," *Zeittf. f. Hellk.*, 1900, vol. xxi, (new series, vol. i), Division for Pathologic Anatomy, p. 200; Wolters: "Haemangioendothelioma tuberosum multiplex n. s. w.," *Archiv. f. Dermat. u. Syph.*, vol. lili, 1900; Fordyce: "Multiple Benign Cystic Epithelioma of the Skin," *Jour. of Cutaneous and Genito-urinary Diseases*, 1892, p. 459; Verneuil: "Etudes sur les tumeurs de la peau et quelques maladies des glandes sudopares," *Archiv. gén. d. méd.*, 1854, vol. lili, pp. 447 and 693; Lotzbeck: *Virchow's Archiv.*, vol. xvi, p. 160; Thierfelder: "Ein Fall von Schweissdrüsen-Adenom," *Archiv. f. Hellk.*, vol. xi, 1870, p. 401; Lücke: "Handbuch der Chirurgie von Pitha-Billroth," vol. ii, part 1, p. 276; Perry: "Adenomata of the Sweat Glands," *Atlas of Rare Cutaneous Diseases*, iii, 1890, vol. i.