

rhagic tendency. One or more of these symptoms occur in about the same proportion as that of jaundice.

*Etiology.*—The causes of umbilical hæmorrhage are, in many cases, involved in obscurity. But in a large number there seems to be a direct relationship between the hæmorrhage and some constitutional condition of infant, which condition may be either hereditary or congenital.

The hæmorrhagic diathesis, or hæmophilia, in my opinion, stands first in the list. Though many persons of this peculiar diathetic condition have perfectly healthy children, still this does not impair the fact that it is a predisposing cause.

But it is not absolutely necessary to invoke the aid of the hæmorrhagic diathesis in the parent to establish the existence of this condition in the offspring. Note the symptoms accompanying umbilical hæmorrhage: are they not those of some blood dyscrasia? In one hundred and seventy-eight cases there were twenty-six with jaundice, purpura, ecchymoses, bleeding from gums, etc., fifteen without jaundice, but with ecchymotic spots, bleeding from gums, bowels, and penis. In nine cases there was a distinct hereditary transmission of the hæmorrhagic diathesis from the parents, and several of these had lost children from other manifestations of this diathesis. In the original case herein reported the mother was a so-called "bleeder." With this evidence before us, it is impossible for us to deny to the hæmorrhagic diathesis a first place in the agencies that bring about this accident. And this is not all. See the fatality of this apparently trivial accident. Do we find so large a percentage of deaths in hæmorrhage from other causes?

And why is it so large in this? Simply because of the weakness of the walls of the blood-vessels and the non-coagulability of the blood.

Jaundice, as an etiological factor, has been the favorite ground for nearly all writers. It is said, in consequence of deficient hepatic action and choking of biliary ducts, the bile finds its way into the blood, which, by inducing a condition of cholesteræmia, deteriorates that fluid, rendering it less plastic. Unfortunately for this theory, it has not been supported by the records of the post-mortem examinations that have been made, for in a comparatively small percentage was there

any structural change in liver or its ducts found.

In a few cases the infantile blood has been impaired by the syphilitic or scrofulous taint.

Various other conditions have attracted attention as causes, such as excessive use of alkalies by pregnant women for dyspepsia, insufficient food, and the inevitable maternal impressions.

Of all these, interest undoubtedly centres in the two conditions,—viz, hæmorrhagic diathesis and jaundice. Now, the question arises, do they both depend on the same state of affairs for this existence? and, if so, what is this condition? Or are they to be regarded as separate and distinct entities, each exerting their baneful influence.

They are found existing together in about the same proportion of cases of umbilical hæmorrhage.

Does the circulation of biliary salts in the blood, by its deteriorating influence, induce a state of affairs simulating hæmophilia, or is hæmophilia the disease of our little patient, jaundice merely being an indication that the liver is not receiving its proper healthy pabulum and hence refuses to carry on its function properly?

It will require much more investigation than has been given to the subject in the past to determine these points.

At present we are obliged to admit several etiological factors in the production of umbilical hæmorrhage.

*Sex.*—There appears to be a predisposition on the part of the male sex to the occurrence of umbilical hæmorrhage. In one hundred and fifteen cases which I have been able to collect where the sex was mentioned, there were seventy-six, or nearly sixty-seven per cent., males, and thirty-nine, or nearly thirty-four per cent., females.

*Morbid anatomy.*—Unfortunately, the morbid anatomy and pathology of umbilical hæmorrhage are in a very crude state, and hence very unsatisfactory. The meagreness of autopsies, and absence of details in those that have been made, render it impossible, at present, to arrive at any satisfactory conclusions.

In one hundred and forty-nine deaths there are records of but twenty-one autopsies, and of these but few complete. Most writers have confined their description to