

On the length of the Umbilical Cord and its mechanical influence upon Parturition.—Our *Dublin* cotemporary for March last, contains an interesting paper on this subject by Dr. F. CHURCHILL, Physician to the Western Lying-in Hospital. After noticing contradictory statements of writers on the subject, the author quotes the observations of Dr. Adellmann of Fulda, and Professor Henne of Koenigsberg.

Out of 49 cases Dr. Adellmann found that in 3 cases the length of the cord was 14 inches; in 6 cases 15 inches; in 12 cases 16 inches; in 1 case 17 inches; in 17 cases 18 inches; in 4 cases 19 inches; in 5 cases 20 inches; in 1 case 21 inches.

Out of 130 cases Professor Henne found that in 1 case the length of the cord was 13 inches; in 7 cases 15 inches; in 2 cases 16 inches; in 4 cases 17 inches; in 10 cases 18 inches; in 8 cases 19 inches; in 16 cases 20 inches; in 11 cases 21 inches; in 21 cases 22 inches; in 9 cases 23 inches; in 13 cases 24 inches; in 8 cases 25 inches; in 3 cases 26 inches; in 4 cases 27 inches; in 4 cases 28 inches; in 1 case 29 inches; in 2 cases 30 inches; in 3 cases 31 inches; in 1 case 32 inches; in 2 cases 34 inches.

For his own satisfaction, and as a test of the correctness of the authorities, Dr. C. had the funis of the child measured in every case attended from the Lying-in Hospital, and the following is the result:

Out of 212 cases, he found that in 6 cases the cord measured 12 inches; in 1 case 13 inches; in 7 cases 14 inches; in 7 cases 15 inches; in 15 cases 16 inches; in 4 cases 21 inches; in 75 cases 18 inches; in 10 cases 20 inches; in 4 cases 21 inches; in 9 cases 22 inches; in 49 cases 24 inches; in 2 cases 26 inches; in 5 cases 28 inches; in 1 case 29 inches; in 8 cases 30 inches; in 1 case 34 inches; in 5 cases 36 inches; in 1 case 46 inches; in 1 case 48 inches; in 1 case 54 inches.

Thus, out of 391 cases, there occurred six of one foot long, and none under that length. The length which occurred most frequently was eighteen inches, and the next in frequency two feet; so that the estimates of authors are not quite correct. There is but one example in the whole number of a cord exceeding forty-eight inches.

"We may conclude, I think," says Dr. C., "that cords only ten inches long must be comparatively very rare, (although I have quoted the record of four such,) since not one occurred out of 391 cases. Now, as to the practical effects of these unusually short cords, it should be borne in mind, that (in head presentations) as soon as the breech passes through the lower outlet, all stress upon the cord may be and is taken off by the child's lying with its abdomen close to the vulva; and that the length required is such as will reach from the insertion of the placenta to the vulva, and from the breech of the child, when at the vulva, to its umbilicus. A cord of this length will, it is clear, allow the child to be born safely. What, then, is this length? I have recorded four observations of different authors, in the former part of this paper, of children being delivered without accident, whose cords were only ten inches long. But suppose in these cases that the placenta were not situated at the most distant point of the uterus, that they were inserted into the side instead of the fundus, we may allow three inches more as the limit of the length necessary, and finally conclude, that a cord of thirteen inches long

will always suffice for the delivery of the child, and that one of ten will also, under favourable circumstances.* This calculation entirely refutes the notion of delay in labour arising from this cause, unless, at least, the cord be under ten inches, and I am not aware of any example of this being on record."

Out of 190 cases, the cord was round the neck in 52, or in more than one-fourth. The shortest cord which was coiled round the neck, was eighteen inches. This occurred but twice in 75 cases. It was never under two feet when coiled twice round: nor under three when coiled three times round. It was coiled four times round in one of three feet; and four times in one case of fifty-four inches. Whenever the cord exceeded two feet in length, it was generally round the neck. Deducting the length of the coil in the shortest cord, and thirteen inches will be left, which, as has already been shown, is amply sufficient for delivery. Thus, even in the most unfavourable instance, there would be no mechanical interference with parturition, nor any danger to the child. Where coiling was observed most frequently, (twenty-four inches,) the part remaining free was equal to the length of an ordinary cord, and such was the fact when the cord was twisted more than once round. It appears, therefore, that the coiling round the neck is a consequence of the excessive length of the funis, and that the number of coils is in proportion to that length.

As to the practical application of these observations, a few words will suffice. By almost all authors we are impressed with the necessity of untwisting the coil around the neck, by slipping it over the head or shoulders, in order to give the child the benefit of the full length of the cord. In many cases this is very difficult; in some, it is impossible. We have seen that in by far the majority of instances this is perfectly unnecessary, as no evil consequences can follow, there remaining, allowing for the coil, an adequate portion of the cord free. The cord should in all cases be drawn down a little, to relieve the stress upon it, and to loosen the part round the neck; but, except in a very few cases, more will not be necessary.