fourteen cells. The right biceps did not contract even when the current from thirty cells was applied; the left biceps reacted to twelve cells. Both triceps muscles reacted to twelve cells. The flexors of the right forearm reacted to twelve cells; those of the left to fourteen cells. The extensors of the right forearm reacted to eighteen cells; those of the left to twenty cells.

Some of the muscles attached to the right scapula were affected. There was evidently some weakness of the serratus magnus, for the posterior border of the scapula stood out much further from the back on the right side than on the left. This difference was brought into greater prominence when he held his arm straight out in front of him. The angle of the scapula did not become so completely separated from the muscles of the back as when the serratus magnus was completely paralysed, but its position was an approach to that condition. There was very marked deficiency in reaction to the induced current in the muscle on the right side, amounting, as compared with that of the left, to six divisions in the bar. There was also a marked diminution in reaction to the constant current. The right rhomboidei muscles were also somewhat wasted, and their irritability to the induced current was very distinctly less than on the left side, the difference amounting to two degrees on the bar. The latissimus dorsi and the pectoral muscles were not affected in any way. There was apparently nothing now amiss with the legs.

The patient was ordered to have voltaic electricity applied over the affected muscles (labile current), and under its influence there was considerable improvement. The biceps was too far gone for recovery, and there was no change in the serratus magnus or the rhomboidei. He became, however, so much stronger in the arm, after three or four months' treatment, that he was able to resume his work.

[To be continued.]

CONGENITAL MALFORMATION OF BOWEL: AMUSSAT'S OPERATION.

By EDWIN FAIRLAND,
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ON September 14th, 1878, I attended a lady who gave birth at full term to her seventh child, a male, who, to all external appearance, was well and naturally formed. Some years ago, she had had a female child, who died, the parents told me, within four days of birth, from the absence of any outlet from the bowel, the anus being only a short cup-shaped cavity. This child died in great agony, convulsions terminating its existence, no operation having been performed for its relief.

The child now born failing to have any action of the bowels up to the second day, I made an examination of the rectum, and discovered that the gut extended only about two inches and a half from the anus, there terminating in a *cul-de-sac* of thickened membrane. The child continued until the morning of the third day to be free from any pain; but the gradually increasing distension of the abdomen, and the stercoraceous vomiting which now set in, led to the determination to lose no time in adopting some operative interference to relieve suffering and, if possible, to save life.

The parents, aware how small a chance of life was afforded by any operation, and dreading the disagreeable results to the child in after-life in the event of one being successful, at first declined to allow anything to be done; but calm reasoning overcame their scruples, and they left the matter in our hands. Surgeon-Major J. Ross Murray, R.H.A., kindly assisted me both in determining the nature of the proceeding and carrying it into execution.

The finger in the rectum experienced a sensation of "forcing down" during an expulsive movement of the child; and at first we thought it possible to establish an opening into the bowel here, and attach the punctured extremity to the anal orifice; but the distance (two inches and a half) of the undeveloped gut from the anus obliged us to give up this idea. We then determined on performing Amussat's operation in the left loin. This we did *secundum artem*, two small arteries in the abdominal wall requiring torsion. On opening the abdomen, exploration was made for the descending colon; and, on withdrawal of the finger, a portion of the distended gut at once bulged through the wound. This was returned without much difficulty, and a portion was retained in the opening by ligatures passed through it transversely; these were attached to the edges of the wound, and an opening made in the long diameter of the intestine, the ligatures being secured in four places.

Comparatively little blood was lost, and the child bore the operation well. On opening the bowel, a large quantity of dark brown fluid faeces rushed out from the distended gut, giving great and almost imme-

diate relief to the child. From this time, it appeared to suffer no pain. Similar fluid came away at intervals from the opening. It took brandy and milk at short intervals, and finally died without a struggle eighteen hours after the operation.

Two hours after death, I made an examination of the abdominal cavity, with the interesting result portrayed in the accompanying sketch. The abnormality consisted in a bifurcation of the intestine,

A. The Stomach. B. Bifurcation of Intestine. C. Portion of Large Intestine patent during life, and distended with fluid food. D. Portion of Small Intestine apparently patent during fetal life, and filled with semi-solid meconium. E. Straight Tube connecting Caecum with Rectum. F. Undeveloped Rectum. G. Opening made by operation. H. End of additional Bowel.

commencing about an inch and a half from the pylorus. The small intestine marked D was in diameter about one-third of an inch; its coats were thickened and of a pale grey colour, and its canal impacted with semi-solid greenish meconium. It was tightly filled with this matter as far as the rudimentary caecum with its distinct vermiform appendix, from which continued a pipe-like portion of gut (E), terminating at the *cul-de-sac* forming the rectum (F). The second portion of intestine, marked C, was altogether larger, and more closely resembled a normal bowel; it was about thirteen inches long and one inch in diameter. Before the operation, it was distended with fluid, and had been the only portion of bowel patent since birth. But it terminated in a *cul-de-sac* (H), and formed, therefore, a species of pouch, from which there was no exit except by regurgitation. We had opened into this gut about three inches above the *cul-de-sac*, and thus had hit on a very suitable spot for the operation.

The result of our interference, as far as the saving of life was concerned, was of course *nil*; but it was so far advantageous that it removed all source of suffering and gave the child a painless death, in marked contrast, according to the parents' statement, to the agonies endured by the former child, whose death appears to have been one of unusual torment. I ascertained from them that they had both entertained a continual dread that their child might be born with the same singular abnormality that had characterised their other child. There can be no doubt that this thought impressed the mind of the mother very strongly. Are we to assume that this "impression" resulted in this remarkable divergence from the ordinary intestinal arrangement? or, if not, to what was it due?

WORTLEY RURAL, No. 1.—Dr. Drew's report for 1878 is very short, but, as he says, the sanitary state of the district calls for little remark. The death-rate was 21.2, or rather below the average of the years 1874-77. The number of deaths from zymotic diseases is not stated; but numerous local outbreaks of scarlatina, typhoid, and measles, and two of typhus, are reported.