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CONGENITAL MEGACOLON

RESULTS OF TREATMENT BY SPINAL ANAESTHESIA

BY

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In the milder cases of megacolon in childhood it may be that diet and medical measures will secure a sufficient action of the bowel, but where diet and drugs alike fail and frequent recourse has to be had to enemata and mechanical evacuation the need for surgical treatment is clear. Without such treatment the trouble tends to worsen, and in the more severe forms death is likely before the age of 20.

The fashion of surgical intervention has changed from time to time. In earlier days short-circuiting operations were tried and found wanting, while heroic resections of the dilated colon were attended by a high mortality even in experienced hands: 25% by Adson (1937). The mortality should certainly be lower to-day as a result of the better pre-operative preparation of the patient and his colon. There is undoubtedly a place for resection in the most severe varieties of the trouble which show no response to other forms of treatment.

The conception that megacolon is due to an achalasia—i.e., an imbalance between the sympathetic (filling) and the parasympathetic (emptying) mechanism which results in a relative inadequacy of the latter action—at once altered the outlook by suggesting an attack on the nerve supply rather than on the bowel itself. The sympathetic supply was interrupted in various places by bilateral lumbar, unilateral lumbar, presacral, and inferior mesenteric sympathectomies. On the whole, good results were obtained at small risk. But in 1935 Stabins, Morton, and Scott showed that success followed the use of a spinal anaesthetic alone. Since that date a number of successful results have been reported by various workers. These reports are open to criticism in that the follow-up period is too short. We have therefore re-examined those patients who were treated by spinal anaesthesia in the neurovascular clinic of the Manchester Royal Infirmary between the years 1938 and 1945. Cases treated within the last two years have been rejected as being too recent to be included.

The number of patients treated during the period is 17. We saw 11 of these patients during December, 1947, and obtained a detailed account of another: five were not traced. These 12 children comprised seven boys and five girls. The youngest was aged 6 months and the oldest 13 years when treated. The average age of the group was 7 years.

Technique

Apart from considerations of safety and control, the drug and method used for the spinal anaesthetic are immaterial. The point is that the effect must reach as high as the anterior roots of T.5 in order to abolish all activity in the splanchnic nerves. To make sure of this it is usual to allow the level of the anaesthesia to rise to the third thoracic segment or even higher, until tingling is felt on the inner side of the hand (T.1). The state of relaxation of the rectus abdominis is a good guide to the paralysis of the anterior roots; the muscle should be flaccid throughout so that the epigastrium bulges when the child cries or coughs.

After-treatment is important, and we have found the following regime to be satisfactory. Liquid paraffin is given daily in one dose of 1/2 oz. (14 ml.), and the enemata are administered every second day during the first week, twice during the second week, and once during the third. Enemata are then discontinued, but liquid paraffin is given in gradually reduced doses for as long as may seem necessary.

Results

The result has been classified as "good" in cases where the bowel action has become normal, "fair" when a considerable improvement has resulted but medicine is still required to maintain regular action, and "failed" when no worth-while improvement has been seen. The 12 cases are grouped as follows: good 8, fair 2, failed 2.

These cases were of a severe type and showed intractable constipation, physical under-development, "pie-crust" complexion, and mental lethargy—all features which mark the more serious forms of the disease. In the successful cases the parents have noticed that the children become much more energetic physically and much brighter mentally, often taking a better place at school. The improvement in growth, in development, and in complexion is striking to the observer. Four of the eight cured cases were treated not less than nine years before, and over this long period their bowel action has remained normal and unaltered.

Lumbar sympathectomy was done in three of the four unsatisfactory cases from one to two years after the spinal anaesthesia, but in only one of these did any further improvement result. It seems likely that cases in which a spinal anaesthetic has failed to produce improvement will also prove refractory to sympathectomy.

Discussion

The explanation of the results obtained in the megacolon of childhood from spinal anaesthesia remains a mystery, and the method must at present be regarded as purely empirical. For some reason the shock of the anaesthetic abolishes the imbalance between the sympathetic and parasympathetic supply of the colon. One can only assert that the method is simple and that it works. We believe that good results are more certain in the younger patients, and that 12 years would seem to be the upper age limit for success. The method is useless in the megacolon of adults, usually mechanical in origin, and in cases of ptosis with constipation in young women.

It is worth while to remember that in cases of megacolon the intra-abdominal scybalous mass, together with the general ill-health and malnutrition, may suggest a diagnosis of *tabes mesenterica*. In fact, of the present series no fewer than four were salvaged from sanatoria.

Finally, we must emphasize that there may be a delay of several weeks after the administration of the spinal anaesthetic before any improvement is manifest. Failure to realize this has doubtless been the cause of the supposedly poor results which some have had with the method. Later

follow-up is likely to reveal a great improvement of which there was no sign during the stay in hospital (Hawksley, 1944).

Summary

The late results of cases of megacolon treated with spinal anaesthesia from two to nine years previously are reported. Out of 12 cases eight were found to remain fully cured.

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MEGALOBlastic ANAEMIA OF PREGNANCY

REPORT OF AN UNUSUAL CASE

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In recent years considerable attention has been paid to macrocytic anaemia of pregnancy. In 1938 Stevenson reported a series of 30 cases, and since then over 80 cases have been described by other investigators in this country (Davidson, Davis, and Innes, 1942; Lescher, 1942; Miller and Studdert, 1942; Fullerton, 1943; Callender, 1944). The term "megaloblastic anaemia of pregnancy" was suggested by Davidson, Davis, and Innes (1942) to replace "pernicious anaemia of pregnancy," since many of the criteria of true Addison's anaemia were not found in their cases. Callender (1944), while emphasizing the variability of the findings in this disease, considered two necessary diagnostic features to be "the presence of true megaloblasts in the peripheral blood and the demonstration of a megaloblastic change in the bone marrow."

The case reported below presents features which we have not been able to find in the literature and which we consider make it worthy of publication.

Case Report

A primipara aged 21 was delivered on Nov. 25, 1946, of a healthy female infant at an L.C.C. hospital. There was a second-degree primary tear, which was sutured. The antenatal history was negative, except that the patient was pale throughout pregnancy and had a persistent cough. She became pyrexial on Nov. 26; sulphadiazine and penicillin were given, but pyrexia continued. The haemoglobin on the 27th was 41%. She was transferred to the North-Western Hospital puerperal sepsis unit on Nov. 29.

On admission she was very pale and had a septic second-degree tear of the perineum, with a septic and lacerated cervix, but a normally involuting uterus. The spleen was palpable. Cultures from the cervix yielded no significant growth, and urine and blood cultures were sterile. A blood count (see Table I) showed marked anaemia, and she was transfused slowly with 1 litre of blood. The blood count, however, showed no improvement after the transfusion. Sternal puncture was performed on Dec. 3. In spite of penicillin treatment (30,000 units three-hourly) pyrexia persisted and numerous small pustules developed on the wrists and arms. Later, retinal haemorrhages occurred. Intensive liver treatment was started on Dec. 13, and a further blood transfusion was given with but little effect. The patient died suddenly on Dec. 31.

Haematological Findings

The first blood count on Nov. 30 showed a profound anaemia (haemoglobin 35%), and the white blood cells were decreased, with a high proportion of immature granulocytes. As the