BOOK REVIEWS


This monograph, sponsored by the Commonwealth Fund and published by the Harvard University Press, puts into print work which the author has been carrying out for some years.

Mr. Rickham courageously set out, by using the technique of a careful metabolic balance, to study the response of the neonate to surgery. Anyone who has attempted to carry out experiments of this character will know the enormous amount of work that goes into such a task and he and his helpers are to be congratulated on having made so complete a study of so many infants as they have.

After two brief introductory chapters devoted to an historical survey and to technical methods, he describes in adequate detail eight infants who have had various operations, upon whom complete data are available from the pre-operative phase to either convalescence or death. In each case the clinical story and the results of the balance studies are given and then follows a brief analysis of the findings. Various types of cases have been chosen, from the premature to the relatively mature 3-week-old child, with ranges of operation from the mildly traumatic one to a severe operation entailing a second a few days later. He then gives a general discussion which is commendably lucid and by no means lengthy, in which the factors involved in the response to trauma are discussed and compared with the type of response in the adult.

It is abundantly clear that the neonate responds very differently from the adult to surgical trauma. As a result of this difference, the neonate appears to be able to withstand surgical insult very much better than would have been expected. As an example, whereas the adult loses considerable quantities of potassium, the amount of potassium lost by the neonate is relatively small and appears to be no more than the potassium lost in the catabolism of the tissues during starvation.

The final chapter is on practical applications and in this the author leaves behind the various speculations as to possible reasons for the changes that have been found and crystallizes his experiences in the handling of the metabolic problems of neonatal surgery in an extremely valuable chapter. Whatever one may consider to be the explanations of the metabolic puzzles which he has been describing, there can be no doubt whatsoever that the instructions that he gives for handling these problems are the best available at our present state of knowledge.

Some of his more important points can be summarized: loss of body weight up to 5 or 10% is normal for the neonate, and loss up to 20% can be tolerated without harm. The majority of this loss of weight is water and metabolite fat. Similarly, calories are not so vitally important to the neonate as to the older infant. In dealing with the fluid requirements, while it is important to correct dehydration pre-operatively it must be recognized that the amount of fluid required subsequently is not great and there is more danger of drowning a child by overhydration than of damaging it by dehydration. Equally as important is the necessity of restricting the amount of sodium and chloride given and he recommends that normally no stronger solution than N/5 saline should be given, except when marked salt loss has occurred, when small quantities of N/2 saline may be given. Potassium only needs to be given when there is delay in feeding or large quantities of fluid have been removed by gastric suction, and even then only small amounts of potassium supplement are recommended. However, the author stresses the impossibility of adequate control of the post-operative phase by rule of thumb methods and he states categorically that unless facilities for a rapid service from the laboratory for the necessary blood analyses by micro methods is available neonatal surgery should not be attempted.

For those who are interested in the technicalities of intracellular and extracellular water and electrolyte behaviour, a study of his eight cases is highly rewarding, and, though certain problems receive an answer, an even greater number of problems as to how various changes have occurred are presented, and these make one entirely agree with the author’s statement in his summing up that ‘We know as yet very little about the many physiolo-

gical and pathological changes which we initiate when operating on newborn infants’.


Until recently, congenital malformations of the respiratory tract have mainly interested pathologists and embryologists; in consequence, there is little mention of them in most standard clinical textbooks. However, with more frequent and improved radiological investigation and the development of thoracic surgery, such malformations have acquired increased importance. This monograph brings together a useful collection and classification of information from widely dispersed sources. After a good account of the development of the respiratory tract, both in utero and post-natally, there are sections on pulmonary agenesis and hypoplasia, accessory and sequestrated lobes, bronchogenic and air-containing cysts and anomalies of the pleural fissures and bronchi. The illustrations are adequate and the bibliography is very comprehensive.