JS-1-1  SURGERY IN PREMATURE BABIES  
N.A. Myers, M.D.  
Royal Children's Hospital, Melbourne, Australia  

During the past 30 years we have witnessed the emergence of surgery in the newborn infant as a viable, successful venture. Conditions previously fatal have become amenable to surgical correction and with increasing experience, techniques have evolved enabling life to be saved in the emergency situation. Follow-up studies have led to refinements in technique with reduction in early mortality and later morbidity and although successful technical surgery remains the cornerstone for the ultimate result, para-surgical and para-medical measures have become of increasing significance. In this regard one only has to consider the advances in anaesthesia, metabolism, nutrition, immunity responses and thermal control to highlight the fact that the ultimate results of neonatal surgery will relate to multi-factorial areas.

Both the technical surgery and the care of the newborn as a whole become increasingly critical in relation to birth weight and gestational age and it is therefore appropriate, in 1983, to consider surgery in the premature baby separate from surgery in the term infant. In this context it is possible to recognise 4 groups ...
1. Conditions not restricted to prematures  
2. Most frequently encountered in prematures  
3. For all practical purposes only encountered in prematures  
4. Surgery to help the premature baby but not necessarily for a surgical problem.

JS-1-2  FLUID AND NUTRITIONAL MANAGEMENT OF THE PREMATURE SURGICAL NEONATES  
S. Suita, M.D.  
Department of Pediatric Surgery,  
Kyushu University, Fukuoka, Japan  

Advances in neonatal surgical care have resulted in better survival of premature babies with congenital anomalies. Adequate fluid and nutritional management in the premature surgical neonate is considered to be important for immediate survival and for subsequent normal growth and development. Parenteral nutrition (PN) as a supplement to inadequate oral intake has been used successfully in premature surgical neonate. There are, however, limited data in the literature concerning the metabolic response of premature surgical neonates receiving PN, particularly for long term PN.

During the past 13 years, between 1970 and 1982, 26 premature surgical neonates were given PN for 7 – 143 days at Department of Pediatric Surgery, Kyushu University. PN was supplied by Glucose-Amino acid-Fat solution with added electrolyte, vitamins and trace elements. Daily dosage and calories of infusate were varied between 100–160 ml/kg, 60–100 Cal/kg, depending on the clinical condition of the babies. Five of 26 patients died of their original anomalies and in the survived 21 babies, a positive nitrogen balance and a gain of body weight were obtained, though they needed rather long term to reach normal range. However, hepatic dysfunction, deficiency of trace elements, vitamins were encountered problems during PN.

The aim of this study is to investigate the efficacy and problems of PN in premature surgical neonates.

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