

P-27

Results of Ernica* Survey on Food Introduction in Infants with Short Bowel Syndrome Managed by Specialist Intestinal Failure Rehabilitation Centres

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Rationale: The first ERNICA IF workshop was held in 2019; several research questions were raised. One aim was to ascertain how European multidisciplinary intestinal failure (IF) centers introduce complementary foods to infants with short bowel syndrome (SBS) on parenteral nutrition (PN) and any supportive treatment used. The primary aim of IF management is to wean patients off PN whilst maintaining weight gain and growth, but there is no good evidence on how to achieve this.

Method: A questionnaire developed by the ERNICA group on infant weaning strategies in SBS associated IF was sent to all the participating 24 IF centers in 15 European countries. Questions included: the age food introduced, if the remaining intestine influenced foods offered, complementary feeding strategies (e.g. food type: starch, vegetable(veg), meat and/or fruit), use of pro- and/or anti-biotics, investigation of intestinal bacterial overgrowth and GLP-2 treatment access.

Results: Our response rate was 100% (24/24 centers). 22 of the 24 centres introduced complementary foods by 6 months of age, with 12 (50%) correcting for the premature infant's gestational age. Only 8/24 used a protocol for complementary food introduction. Food introduced was based on remaining small intestinal length and if colon and/or ileo-caecal valve resected in 16/24 centers. Most centres cautiously introduced foods; 8/24 introduced a single food/food group: 6 starch, 2 veg based and 8/24 started with combinations of 2 foods: 4/24 starch + veg, 2/24 starch + meat, and 2/24 veg + fruit. 18/24 centers advised avoidance of certain foods. Most centres monitored patients closely during the period of food introduction. 13/24 centers used probiotics. 21/24 centers routinely investigated for intestinal bacterial overgrowth. 18/24 centers had access to GLP-2 treatment.

Conclusion: There is a wide variation in feeding practices across Europe in infants with SBS though the age at which complementary foods were commenced was uniform. Early concerted attempts at weaning infants onto enteral feed are essential in order to enable children with SBS to have the best possible opportunity for a good quality of life. Successful introduction of enteral nutrition makes the difference between a child having a normal life free of hi-tech treatment as opposed to long-term dependency on PN and the risk of associated life-threatening complications. There is an urgent need for multi-centre studies that will help us understand the best enteral feeding techniques to facilitate early enteral autonomy in infants with SBS.

P-28

Food Rehabilitation in Paediatric Population with Short Bowel Syndrome

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Introduction: Short Bowel Syndrome (SBS) patients requires a challenging and multidisciplinary management. Different therapeutic strategies were reported in literature, including intestinal lengthening surgery, enteral nutrition, total parenteral nutrition (PN) and, in the most advanced stages of the disease, intestine transplantation.

The aim of the study is to analyse and describe the nutritional rehabilitation process in paediatric patients with SBS, as appropriate nutritional strategies were not reported in literature.

Methods: A retrospective study of SBS children undergone intestinal lengthening surgery between January 2018 and July 2020 was performed.

Data collected included: gestational age, birth weight, SBS aetiology, PN duration, age of surgery, small bowel remnant, presence of ileocecal valve, stomas maintenance period and laboratory parameters.

Each patient was analysed about clinical conditions with laboratory parameters such as evaluation of blood sugar, urea, haemoglobin, total and specific proteins such as albumin, calcitonin, electrolytes and coagulation factors. Nutritional status was also assessed with adequate instrumental tests.

Other findings were evaluated: presence of gastrointestinal symptoms, number and type of stool evacuation, enteral/parenteral nutrition, intestinal decontamination, anti-reflux therapy.

Local ethical was approved.

Results: Sixteen patients were included (44%M, 56%F) with median age of 5 years (range 1-16 years) and with 18,75% over 10 years old.

Patients with duodenal resection had iron and folic acid deficiency, while lack of calcium and zinc was reported following jejunostomy.

Ileal resection was associated with both fat-soluble (such as vit. A and vit. D) and water-soluble (as vit. B12, cobalamin) vitamins deficiency.

Conclusion: Main nutritional issues related to the different intestinal tract resected were studied in order to identify personalized nutritional plants for rehabilitation.

Nutritional rehabilitation presents a central role for intestinal adaptation and general condition improvement.

Some previous studies also recommended a poor simple carbohydrates diet in SBS patients feeding, but appropriated nutritional strategies were not still described.