

I. project background, technical principle and significance

1. Project background

Inflammatory Bowel Disease (IBD) is a chronic, nonspecific Inflammatory Bowel Disease of unknown etiology, including Ulcerative Colitis (UC) and Crohn's Disease (CD). UC is a chronic non-specific inflammation of the colon, and its clinical manifestations mainly include abdominal pain, diarrhea and mucous purulent stool. CD is a chronic granulomatous inflammation characterized by abdominal pain, diarrhea, weight loss, fistula, anal lesions, and varying degrees of systemic symptoms. IBD is a common disease in North America and Europe, with an incidence of 1‰~2‰. In recent 30 years, the incidence of IBD in Japan has been increasing gradually. With the change of living environment, the incidence of IBD in China is also on the rise. The number of IBD cases reported in the last five years in 2008 is 8 times that of the same period in the 1990s. IBD has a lifelong tendency to relapse, and the disease cannot be cured for a long time, resulting in a great disease burden for patients and countries.

The main therapeutic objectives of IBD are to induce and maintain clinical remission, prevent and treat complications, and improve the quality of life of patients. Treatment options include drug therapy, surgical treatment, and nutritional treatment. Patients with IBD are often accompanied by malnutrition due to the influence of eating fear, loss of appetite, intestinal inflammation, ulcers, diarrhea, infection and treatment drugs (such as hormones, salazopyridine, etc.), and the incidence of malnutrition can reach 85%. Malnutrition weakens patients' ability to fight infection, affects the healing of surgical incision and intestinal anastomosis, prolongs hospital stay, increases the incidence and mortality of surgical complications, reduces life and treatment, and causes growth retardation in IBD children and adolescents. In 2013, the inflammatory bowel disease group of the gastroenterology branch of the Chinese medical association formulated the "expert consensus on nutritional support treatment for inflammatory bowel disease", which clearly pointed out that nutritional treatment was an important part of IBD treatment. IBD nutrition therapy can not only improve the nutritional status of patients, improve the quality of life, reduce the risk of surgery, but also induce and maintain CD remission, promote mucosal healing, and improve the natural course of disease. For adults, CD enteral nutrition support therapy can be used as an alternative therapy that is ineffective or contraindicated in drug therapy. For children and adolescents, CD enteral nutrition support therapy can promote deep remission and growth and development, and its induction rate of remission is similar to hormone, which is an important part of IBD treatment that cannot be ignored.

IBD nutrition therapy is highly specialized and complementary to drug therapy, and the selection and adjustment of treatment options are based on a comprehensive assessment of the disease. IBD especially severe patients, patients with intestinal fistula, intestinal obstruction, diarrhea, surgery and treatment of multiple factors, such as easy when trying to enteral nutrition intolerance (abdominal pain, abdominal distention, diarrhea is aggravating, etc.), traditional transition through the mouth or complementary enteral nutrition once appear intestinal intolerance, may lead to interruption of enteral nutrition. How to carry out standardized nutritional treatment for

IBD patients and guide patients to gradually realize whole-gut nutrition is the key point of this technology.

2. Technical principle and significance

Technical principle:

NRS-2002 (Nutrition Risk Screening, 2002) was used to conduct Nutrition Risk Screening. The patients' overall nutritional status assessment form (PG-SGA) was used for subjective assessment of nutritional status. Anthropometric indicators (such as height, weight, body mass index, upper arm circumference, upper arm muscle circumference, triceps coat thickness, albumin, etc.) were used as static objective nutritional assessment, and body composition analysis by human body composition analyzer was used as dynamic objective nutritional assessment. According to the consensus of IBD nutrition treatment experts, nutrition supply quantity, route, preparation and other related programs were formulated, and standardized nutrition treatment process was adopted to implement nutrition treatment.

According to the patients' disease status, tube feeding time, internal and surgical diagnosis and treatment plan, the patients with appropriate symptoms of nutritional treatment were treated with standardized stepped nutritional therapy, and dynamic nutritional evaluation and efficacy evaluation were conducted. After discharge, patients were instructed to receive family nutritional support, and patients' nutritional support treatment compliance and disease prognosis were tracked through telephone follow-up and outpatient review.

3. Meaning:

This project is a specification for IBD patients staged nutritional therapy, on the basis of the comprehensive evaluation about his illness treatment, runs through the whole course of the disease, patients with nutrition therapy can effectively improve enteral nutrition in patients with tolerance and compliance, improve patients with malnutrition, reduce IBD complications, improve patient quality of life and long-term survival rate, reduce the patients' hospitalization expenses, death rate and the social burden of disease, has the good economic efficiency and social benefits.

II. Main contents and objectives

1. Main work contents of the project:

Project approval and ethical review.

(2) Nutrition Risk Screening: the Nutrition Risk Screening tool nrs-2002 (Nutrition Risk Screening, 2002) was used for Nutrition Risk Screening.

(3) nutritional assessment: the patient's overall nutritional status assessment form (pg-sga) was used for subjective nutritional status assessment; Anthropometric indicators (such as height, weight, body mass index, upper arm circumference, upper arm muscle circumference, triceps coat thickness, albumin, etc.) were used as static objective nutritional assessment, and body composition analysis by human body composition analyzer was used as dynamic objective nutritional assessment. Nutritional assessment was performed several times in the course of treatment as the basis for evaluating the effect of nutritional support therapy.

(4) nutritional treatment:

Nutrient supply: energy: remission period: 25~30kcal/kg·d;Activity period: 8%~10% higher than the remission period. For example, with fever, the body temperature increases by 1°C, the energy increases by 10%~15%, and the energy with sepsis increases by 20%. Children and adolescents: increase energy by 10 to 20 percent over recommended peers.Protein: 1.0~1.5g/kg·d.

Nutritional methods: to correct malnutrition: exclusive enteral nutrition (EEN) or partial enteral nutrition (PEN); Induced active CD remission: EEN;Maintain CD relief: EEN or PEN.

EN route: tube feeding when oral supplementation of EN exceeds 600kcal/kg·d, including nasogastric tube, nasointestinal tube, percutaneous endoscopic gastrostomy and surgical gastrostomy.PN pathway: peripheral vein (10~14d), central vein;

Preparation selection: intestinal dysfunction: starting from low osmotic pressure element diet, and gradually transitioning to the whole protein formula according to patient tolerance;Adjust the tolerance of different formulations in time according to different individuals and conditions.

(5) family nutrition support: it is recommended to file disease files of IBD patients, conduct family enteral or parenteral nutrition guidance, and conduct regular telephone follow-up and outpatient review.

III. Implementation plan

1. New project application plan (measures to prevent adverse reactions such as indications, contraindications, technical operation specifications and possible complications;2. Expected completion in the next three years;3. Possible difficulties and planning input;4. According to the completion of the project, it is expected to enter the clinical routine application prospect.

1. New project application scheme

Indications: malnourished or malnourished IBD patients;Patients with perioperative IBD;Adult activity CD as an alternative to induction of remission if medication is ineffective or contraindicated;Active CD induction and maintenance of remission in children and adolescents;For children with stunted or stagnant growth, EN is recommended to maintain remission.

Contraindications: complete intestinal obstruction;Massive gastrointestinal bleeding.PN can be used.

(3) technical operation specification: establish disease files of IBD patients and record the key points of diagnosis and treatment.The nutritionist and the attending physician shall jointly agree on the nutritional support treatment plan, and the attending physician shall issue the relevant medical advice. The nutritionist shall be responsible for the deployment of enteral nutrition, and the intravenous configuration center shall be responsible for the deployment of parenteral nutrition.Nutritional support therapy followed the principle of EN preference, followed the principle of sequential therapy, starting with low concentration, low speed, essential diet/short peptide, and pumping enteral nutrient solution into a nasogastric feeding tube for patients with an estimated

EN dose of more than 600kcal/d for 3 to 5 days, gradually increasing the concentration and speed, and converting into whole protein nutrient. In the implementation process, the daily access volume and total heat card were recorded, body weight and blood routine were measured every three days, the middle arm circumference, triceps skin fold thickness, liver and kidney function, electrolyte, lipid, erythrocyte sedimentation rate, CDAI score were measured once a week, and the body composition was measured once a month.

Adverse reactions: IBD patients with a long course of disease, such as long-term poor eating condition, the beginning of nutritional treatment should pay attention to prevent the occurrence of refeeding syndrome.

2. Expected completion in the next three years:

From January 2019 to December 2019, preliminary preparation and basic research were conducted, and 20-30 cases of this technology were completed. It is expected to train medical personnel skilled in this professional technology.

From January 2020 to December 2020, 50-80 cases of this technology were completed, and 1-2 domestic and international articles were published. The congress exchanges, has certain influence in the province, the domestic.

From January 2021 to December 2021, more than 100 cases of this technology were completed, and nutrition professionals were trained to provide talents for the province and China.

3. Possible difficulties and input:

Patients: patients do not cooperate, especially adults with poor EN compliance, which requires more time to be spent by nutritionists for supervision and follow-up; In terms of personnel: there are few nutrition professionals. The distribution, use and analysis of human body composition should be in charge of special personnel, including resident and trainee.

4. According to the completion of the project, it is expected to enter the clinical routine application prospect

It is expected that the project can get on track within 2-3 years, form a stable trend and be formally put into clinical routine application.

IV. Schedule and annual goals

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3. More than 100 cases of this technology were completed, and nutrition professionals were trained to provide talents for the province and China.