NHSJ Nursing and Health Sciences Journal

Volume 2, Number 1 (March 2022)
e-ISSN: 2798-5067
p-ISSN: 2798-5059

Crohn's Disease and Nursing Care from A Patient Treated with Corticosteroids: A Case Report

Shima Heidary[1*], Haydeh Heidari[2]

[1]MSc of Nursing, Faculty of Nursing and Midwifery, Falavarjan Azad University, Esfahan;
shimaheidarye@gmail.com (Corresponding Author)
[2]Associated professor, Faculty of Nursing and Midwifery, Shahrekord University of Medical Sciences, Shahrekord

Article Info:
Submitted:
29-10-2021
Revised:
19-11-2021
Accepted:
11-02-2022

DOI:
https://doi.org/10.53713/nhs.v2i2.82

ABSTRACT

Introduction: Crohn's is an inflammatory bowel disease that is treated with corticosteroids and has many side effects that nurses should be aware of during treatment. The purpose of this case report is to provide solutions in nursing interventions to reduce complications in patients undergoing corticosteroid therapy. Clinical observation: An 11-year-old girl was hospitalized with heartburn and dysentery with a diagnosis of Crohn's disease. Interventions performed for the patient included vital signs control every 6 hours. The itching was one of the symptoms during corticosteroid injection, which gradually decreased in severity. The nursing team did not provide any effective intervention for the patient's corticosteroid therapy. Discussions: Patients undergoing corticosteroid therapy with interventions such as Control of vital signs from the first day of corticosteroid treatment, four hours before, during, and after administration, at different times, up to 24 hours Full. Measurements of blood glucose, serum sodium and potassium, and electrocardiogram should be performed before and four hours after administration on each day of corticosteroid therapy, as well as a corticosteroid injection time of more than 45 minutes. Conclusion: thorough nursing care is essential in patients receiving corticosteroid therapy because leads to early identification of possible complications and intervention to minimize them.

Keywords: Crohn's disease; children; nursing care; corticosteroids

INTRODUCTION

Inflammatory bowel disease is one of the most important causes of gastrointestinal pathology in children and adolescents and its prevalence is increasing. Inflammatory bowel disease is chronic in nature and causes many complications in patients throughout life. There are no comprehensive population-based studies, but it is estimated that 20 to 30% of patients with IBD (Inflammatory bowel disease) show symptoms before the age of 18 (Purdy et al., 2017; Ye et al., 2020). The increasing prevalence of IBD highlights the importance of awareness of pediatric primary care providers and their close involvement in the care of these patients (Kirkegaard et al., 2006).

Corticosteroids are one of the medications prescribed for these patients, and health care providers, especially nurses, should be aware of their side effects. Different risks, risk of infection. These patients are aware of the risk of malignancy as well as complications such as osteoporosis, anxiety, and depression, which threaten them due to the chronic nature of the disease and can even aggravate the disease. Therefore, in addition to prescribing the appropriate treatment for patients, physicians and health care providers, especially nurses, need to provide optimal patient care to improve the overall quality of life of these patients. Many patients lose the desire to use drugs in the long run, one of the most important reasons in Iranian societies is the lack of awareness of the need for long-term use of these drugs (Malaty et al., 2010). With the prevalence of Western lifestyles in Iran, the risk of contracting this disease is also increasing. Therefore, in addition to treatment methods, nurses' awareness of care methods for these patients should be increased. (Rosen et al., 2015). The purpose of introducing this patient is to evaluate the nursing interventions performed before, during, and corticosteroid injection.

NHSJ Nursing and Health Sciences Journal
Volume 2, Number 1 (March 2022)
e-ISSN: 2798-5067
p-ISSN: 2798-5059

CASE REPORT

The patient, an 11-year-old girl weighing 31 kg, was admitted to the pediatric ward with a complaint of blood in the stool, nausea, and severe diarrhea without burning and pain during defecation. About three months ago, after 18 days of fasting, he had severe diarrhea but did not go to medical centers. About a month later, he went to the doctor with bloody diarrhea, which he described as both light and dark blood. The tests taken in order include (Table 1).

Table1. The First Patient's Lab Test Report on July 12, 2021

Biochemistry:			
FBS: 90mg/dl	Triglycerides: 86 mg/dl	Cholesterol: 113 mg/dl	
creatinine: 0.7 mg/dl	Urea Serum: 25 mg/dl	Ast: 21u/l	
Monocyte: 1.8%	HCT: 36.5%	Alt: 29 u/l	
Hematology & Serology: (CBC#)			
ESR 1 hrs: 31 mm / hr (Up to 15)	C Reactive Protein: positive 2+	blood grouping: O+	
PCT: 0.332% more than normal	PPD skin test (TB) Negative (-)	C Reactive Protein: Negative	
Ferritin: 73.1	Calprotectin: 158 (> 120 Abnormal)	MCV: 79.7 fl	
Urine analysis:			
color: yellow	appearance: semi clear	sp gravity: 1.020	ph: 6
proteins: neg*	glucose : neg	bilirubin: neg	urobilinogen: neg
ketone: neg	nitrite: neg	hemoglobin: neg	blood: trace
Microscopic:			
WBC 1-2	RBC: 3-5	Epithelial cells 1-2	
Bacteria: few	Mucus: few	Cast: granular cast:0-1 , yeast and crystals: not seen	
Stool examination(S/E):			
Color: brown	Consistency: soft	Ova of parasites: not seen	
Protozoa cyst: cysts of blastocysts hominies were detected	WBC: 1-2 per hpf	RBC:1-2 per hpf	

*Note: *Neg: Negative, #CBC: complete blood count*

The drug was prescribed by Dr. Bioflora, metronidazole, Mebeverine, which stopped bleeding for a short time for 10 days while taking the drug. But after the medication was over, diarrhea started again.

Differential diagnoses for the patient included: IBD, TB (tuberculosis), and Crohn's. It does not indicate a family history of the disease, the patient is a full-term child who has been fully vaccinated and does not have a previous history of disease other than the oral plague. Positive clinical findings are as follows: S / E: Green boldly, RBC: Many, WBC: many / WBC: $9400^{\times 10^9}$, HB: 15.7g/dl, Lymphocyte: 39.7%, neutrophil: 46.1%, placket: 48100 Second day of colonoscopy and endoscopy and endoscopic report as follows: there were scattered patchy erythema in body and fundus. And colonoscopy: there were ulcers, friability, fragility, nodularity and skip lesions from rectum to cecum. Also, the patient's CT scan did not report any abnormalities, and the patient's corona test was negative. Stool PCR was performed for Shigella and Clostridioides difficile, E. coli, Campylobacter, Salmonella, and Prisenia, with negative test results (11 August 2021). Ciprofloxacin, metronidazole, and methylprednisolone were administered to the patient during hospitalization.

Nursing interventions performed for the patient during hospitalization included taking vital signs every 6 hours as usual and interventions related to before and after colonoscopy and endoscopy. The patient stated that he had no appetite and felt tired and weak, as well as when injecting corticosteroids. He experienced severe itching in the body, especially in the first minutes of the injection, which gradually diminished in intensity, as well as insomnia from the second day of hospitalization (she did not take any medication for 6 hours before receiving corticosteroids also did not use any allergens). However, no nursing care was provided before, after, and during corticosteroid therapy.

On the third day, he was discharged from the hospital with Crohn's disease and the following instructions, with normal vital signs and good general condition. 1. Metronidazole tablets (250 mg) every 8 hours, 2. Ciprofloxacin tablets (250 mg) every 12 hours, 3. Prednisolone 5 mg tablets, one in the morning, two at night, 4. Lansoprazole capsules 30 mg once in the morning on an empty stomach.

Volume 2, Number 1 (March 2022)
e-ISSN: 2798-5067
p-ISSN: 2798-5059

DISCUSSION

Unique considerations when treating children and adolescents with IBD include attention to the effects of the disease on development, bone health, and psychosocial function (Kelsen& Baldassano, 2008). Because these children are prone to diabetes, weight loss, and stunted growth, it should be borne in mind that the use of corticosteroids affects diabetes and causes weight loss in children. Weight loss can be recorded in 85% of children with CD (Crohn's disease) at the time of diagnosis. The onset of growth retardation is usually malignant, and any child or adolescent with persistent developmental changes should undergo appropriate diagnostic evaluation for IBD. Disease-related anorexia and exacerbation of abdominal pain with limited food intake, increased metabolic needs, inflammatory cytokines, and corticosteroid use are other reasons for poor growth (Veilleux & Boulanger, 2019).

Short-term use of corticosteroids is usually associated with mild side effects, including skin complications, electrolyte abnormalities, high blood pressure, high blood sugar, pancreatitis, hematological, immunological, and neuropsychological, although sometimes significant clinical side effects are possible. Occur like itching. In various studies, pruritus is also a side effect of patients receiving corticosteroids either by inhalation or epidural (Buchman, 2001; Patel & Bahna, 2015). Long-term corticosteroid use may be associated with more serious sequelae, including osteoporosis, adrenal insufficiency, gastrointestinal, hepatic, and ophthalmologic effects, growth suppression. It is important to address these issues early in the disease to avoid permanent effects on height and puberty (Richards, 2008; Sandhu et al., 2010).

Among the interventions that should be considered and operated on before injecting corticosteroids are the following (Table 2) (Kappelman et al., 2009; Peres et al., 2020):

The patient should be advised to report major side effects such as abnormal sleep and behavioral patterns, visual abnormalities, gastrointestinal disorders (nausea and vomiting), and signs and symptoms of infections and hypoglycemia or hyperglycemia (Peres et al., 2020). Also, due to the administration of oral corticosteroids to the child, it should be explained to the child and the family that the highest dose should be given in the morning, in the circadian cycle of cortisol. But there is a gap between what should be done in care and interventions for patients treated with corticosteroids and what is done in medical centers (Patel &Bahna, 2015).

Table 2. Nursing Prescription

Nursing Prescription
Check vital signs(BP: Blood pressure, RR: Respiration rate, HR: Heart rate) before and 4 hours after infusion
Check BP every 15 minutes in the first hour after infusion and every 30 minutes in the second hour after infusion
Check the Blood glucose sodium and potassium, and electrocardiogram (ECG) should be performed before and four hours after administration on each day of corticosteroid therapy
Observe and record sings of phlebitis and bleeding
Observe, record and communicate the onset of side effects to the medical team(e.g., hypertension peak, headache, emesis, hyperglycemia, tachycardia, nausea and psychological changes)
Inject corticosteroids for more than 45 minutes
patient be monitored mainly for patients with cardiovascular disease for at least 24 hours after the start of the injection
Prevention of phlebitis and infection of the bloodstream, proper intravenous access, used exclusively for corticosteroids
The best time to start the injection is between 8 and 11 in the morning
Urine check for (number, volume, appearance) and urinary incontinence
Body weight control during corticosteroid therapy

CONCLUSION

Corticosteroids have many side effects, including excessive facial hair growth, weight gain and acne can be important issues for teens. Monitoring of vital signs and side effects is recommended because, according to experts, thorough nursing care is essential in patients receiving corticosteroid therapy. corticosteroid therapy patients are in need of nursing education at different times, and patient awareness level is education with appropriate nursing education. In addition, the involvement of family members in the educational process reflects the nurse's concern about patient care

Volume 2, Number 1 (March 2022)
e-ISSN: 2798-5067
p-ISSN: 2798-5059

during and after hospitalization. In children with CD, controlling symptoms and quality of life is a priority. There is a gap between ideal IBD care and actual patient care. More work is needed to measure the quality of IBD care on a larger scale and to develop tools to improve IBD care. recommended that nursing interventions be performed carefully to reduce complications in patients undergoing corticosteroid therapy, especially children.

CONFLICT OF INTERESTS

None

ETHICAL APPROVAL

Written consent was obtained from the parents of the child and the child to participate in the study and to maintain the confidentiality of patient information. This article was implemented with the ethics code IR.IAU.FALA.REC.1400.045.

FUNDING/SUPPORT

This research received no particular reward from any funding agency in the public, commercial, or not-for-profit sectors.

ACKNOWLEDGMENTS

We would like to thank Falavarjan Azad University for its cooperation.

REFERENCES

Buchman, A. L. (2001). Side Effects of Corticosteroid Therapy. *Journal of Clinical Gastroenterology, 33*(4). doi: 10.1097/00004836-200110000-00006

Kappelman, M. D., Palmer, L., Boyle, B. M., & Rubin, D. T. (2009). Quality of care in inflammatory bowel disease: A review and discussion. *Inflammatory Bowel Diseases, 16*(1), 125-133. doi:10.1002/ibd.21028

Kelsen, J., & Baldassano, R. N. (2008). Inflammatory bowel disease: The difference between children and adults. *Inflammatory Bowel Diseases, 14*(suppl_2), S9-S11. doi:10.1002/ibd.20560

Kirkegaard, I., Obel, C., Hedegaard, M., & Henriksen, T. B. (2006). Gestational age and birth weight in relation to school performance of 10-year-old children: a follow-up study of children born after 32 completed weeks. *Pediatrics, 118*. doi:10.1542/peds.2005-2700

Malaty, H. M., Fan, X., Opekun, A. R., Thibodeaux, C., & Ferry, G. D. (2010). Rising Incidence of Inflammatory Bowel Disease Among Children: A 12-year Study. *Journal of Pediatric Gastroenterology and Nutrition, 50*(1), 27-31. doi:10.1097/MPG.0b013e3181b99baa

Patel, A., & Bahna, S. L. (2015). Immediate hypersensitivity reactions to corticosteroids. *Annals of Allergy, Asthma & Immunology, 115*(3), 178-182.e173. doi:https://doi.org/10.1016/j.anai.2015.06.022

Peres, E. M., Rodrigues, J. C., Leite, D. C., Souza, L. C., Peixoto, I. C., Dos Santos, T. B.,. Gomes, H. F. (2020). Development of an Educational Protocol Based on a Nursing Team's Knowledge of Pulse Therapy in Adolescents in Brazil. *Journal Infusion Nursing, 43*(4), 208-212. doi:10.1097/nan.0000000000000375

Purdy, I. B., Melwak, M. A., Smith, J. R., Kenner, C., Chuffo-Siewert, R., Ryan, D. J.,. Hall, S. (2017). Neonatal Nurses NICU Quality Improvement: Embracing EBP Recommendations to Provide Parent Psychosocial Support. *Advances Neonatal Care, 17*(1), 33-44. doi:10.1097/anc.0000000000000352

Richards, R. N. (2008). Side Effects of Short-Term Oral Corticosteroids. *Journal of Cutaneous Medicine and Surgery, 12*(2), 77-81. doi:10.2310/7750.2008.07029

Rosen, M. J., Dhawan, A., & Saeed, S. A. (2015). Inflammatory bowel disease in children and adolescents. *JAMA pediatrics, 169*(11), 1053-1060. doi: 10.1001/jamapediatrics.2015.1982

Sandhu, B. K., Fell, J. M., Beattie, R. M., Mitton, S. G., Wilson, D. C., Jenkins, H.,. Nutrition. (2010). Guidelines for the Management of Inflammatory Bowel Disease in Children in the United Kingdom. *Journal of Pediatric Gastroenterology and Nutrition, 50*, S1-S13. doi:10.1097/MPG.0b013e3181c92c53

Veilleux, C., & Boulanger, A. (2019). Perineal pruritus in epidural dexamethasone injections. *Canadian Journal of Pain= Revue Canadienne de la Douleur, 3*(1), 167-168. doi.org/10.1080/24740527.2019.1650614

Ye, Y., Manne, S., Treem, W. R., & Bennett, D. (2020). Prevalence of inflammatory bowel disease in pediatric and adult populations: recent estimates from large national databases in the United States, 2007–2016. *Inflammatory Bowel Diseases, 26*(4), 619-625. doi.org/10.1093/ibd/izz182