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The Correlation of Post Definitive Surgery and Quality of Life on Patient with Hirschsprung's Disease: A Literature Review

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Abstract

Hirschsprung's disease is a congenital malformation of parasympathetic ganglion in colon with the result of interfering defecation process. Since Hirschsprung's disease usually diagnoses in the early life of the patients, complain of defecation problem occurs on pediatrics patient. The management of Hirschsprung's disease is definitive surgery. Quality of life described the effectiveness of definitive surgery as the primary management of Hirschsprung's disease. The desired goal of this literature review was to described the pediatric patient's quality of life post definitive surgery from previous similar study.

Keywords : Fecal incontince; Quality of life: Hirschsrpung's disease; Pediatrics

1. Introduction

Hirschsprung's disease is a chronic condition which the lack of Meissner and Auerbach ganglion of the enteric nervous system on distal colon and replace by the hypertrophied nerve trunks [1]. The prevalence of Hirschsprung's disease approximately 1:5.000 live births. The variety of prevalence also differ from ethnic aspect, that is 2.8 children in 10,000 live births in Asians, 2.1 in 10,000 live births in African–Americans, 1.5 in 10,000 live births in Whites, and 1 in 10,000 live births in Hispanics [2]. Especially in Indonesia, the prevalence is higher by 1 in every 150 live births [3]. The majority patients are male [1]. The most common part that affected of the digestive tract is the rectosigmoid and rectum but it also may be extended through the entire tract. The absent peristaltic results interference of the bowel function in the affected intestine or colon [4]. Impaired bowel function disturbed the quality of life and patients had poorer quality of life compared to the healthy control but patients usually have adapted through the symptoms [5].

The etiology of multifactorial disease is unknown. But the increasing case of Hirschsprung's disease in siblings than in general population correlates genetic as the etiology. It was identified that there were more than 10 mutation gene in the patients include RET gene, EDNRB gene, and END3 gene [6]. But the pattern of inheritance does not show a role in a single gene in all families, environmental role may affect the development of this congenital disease [7].

Morbidity in patients with Hirschsprung's disease is common and patients have significant reductions in psychosocial quality of life and functional outcomes [8]. The primary management of Hirschsprung's disease is definitive surgery using pull-through procedures which are transabdominal endorectal by Soave, Duhamel, transanal endorectal pull-through (TEPT) by Swenson, and laparoscopic approach by Georgeson [9].

2. Definitive surgery

To eliminate the patient's complaints, healing can be achieved by performing an operative procedure where the part that does not have a ganglion is taken and only the intestine is carried out so that it becomes a continuous part [10]. Management of surgical preparatory measures is medical therapy. The goal of surgical preparation is to prevent enterocolitis and colonic distension [11]. When presenting surgery in patients with Hirschsprung's disease rely on the health and degree of colonic distension. Patients with Hirschsprung's disease will have corrective surgery in the first few weeks of life or months later, depending on their overall health, and the degree of colonic distension. Rectal irrigation with 10 to 20 mL/kg warm 0.9% sodium chloride solution can be performed at home by parents to facilitate competition and keep the rectum decompressed. A rubber catheter with a large opening is used and allows the ejection of 0.9% sodium chloride solution and feces [12].

Surgical procedures in Hirschsprung's disease are divided into temporary surgery and definitive surgery. Since the initial protocol by Swenson in 1948 began to develop new surgical approach techniques such as Soave, Duhamel and others [13]. A single-stage surgical procedure is possible if the diagnosis can be made early before colonic dilatation occurs in short-segment Hirschsprung's disease, while for long-segment Hirschsprung's disease and total colon aganglionosis it should be performed in 2 stages. Fecal incontinence after surgical management of Hirschsprung's disease is a serious problem [14]. Poor surgical technique may be a contributing factor in some cases. Successful management depends on proper evaluation and the condition of the patient's colon.

If patients after definitive surgery complains about mechanical issue, the first thing to do is to determine if there is mechanical issue such as stricture or twisted colon by using digital rectal exam and barium enema followed by dilatation or revisional surgery. Rectal biopsy can be performed if mechanical obstruction is not found. Aganglionosis and evidence of transition zone pull-through indicates the necessity to do redo-pull through. Botulinum toxin can be injected to the patient after normal rectal biopsy with mechanical problems and mechanical obstruction cannot be found [15].

3. Bowel Function Outcomes

The functional outcome of post definitive operative evaluates by patient’s defecate and social quality [16]

Functional outcome can be obtained by using Rintala score or Krickenbeck classification [16, 22]. Rintala score was determined by Rintala and Lindahl in 1995 based on a clinical score that assesses the evaluation of fecal continence and was obtained from a standardized questionnaire without using a physical examination. The score consists of seven factors that assess the ability to hold defecation, ability to report the urge to defecate, frequency of defecation, soiling, incidence of soiling, constipation, and social problems [17]. While Krickenberk criteria is used to evaluates soiling, constipation, and bowel movements [18]. Although impairment after definitive operation happened, quality of life of the patients is improving [19].

Soiling occurs due to impaired sensation and the sphincter mechanism from the disruption of colonic motility after resection of the rectosigmoid which is the reservoir of feces. This can be seen with damage or absence of the anal canal and/or sphincter due to poor surgical technique [20]. Patients who had undergone Duhamel procedure have lower rates on soiling because the less of anal canal damage [10]. Majority of the patient who had undergone laparoscopic assisted transanal pull-through may had some degree of soiling [21]. Soiling and constipation are common as early and also late postoperative complications [21, 22, 25].

Constipation in postoperative Hirschsprung patients may be due to strictures, acquired or residual aganglionosis, a pull-through transition zone, impaired colonic motility, or stool-retaining behavior that can

be detected by digital rectal examination in combination with a contrast enema [9]. Female patients had higher rate of constipation due to hormonal factor [26]. Soave and Duhamel procedure have similar constipation rate [28]. Constipation may improve by time but it should be found early, so it can be appropriately treated [29]

Incidence of fecal incontinence is lower by creating anastomoses higher than dentate line but if the symptoms is severe, patients may need re-do pull through [21, 22]. Post operative incontinence happened caused by the current constipation complain [30]. Incontinence can be assessed using anorectal manometry, anal sonography, and direct examination of the anal canal in a search for the dentate line [21, 22, 31, 32]. If the sphincter injury has been repaired, the obstructive complain should be treated as soon as possible. The rate of spontaneous recovery indicates that less invasive surgery should be considered [30]. Constipation and incontinence can be assessed by using Paediatric incontinence/constipation scoring system (PICSS) [33, 34]. Severe incontinence may cause perianal excoriations with the result that colostomy is required [35].

4. Psychosocial Function Outcomes

Patients with Hirschsprung's disease had reduction both in functional and psychosocial outcomes [8]. A previous study reported that if patient did not experience social problems due to the function of defecation, even though defecation problems could provide obstacles to social life. Majority of the patients did not experience social problems that interfere with patient activities [35]. Defecation function had an effect on adult patients but defecation function will increase in young adulthood than at a younger age although in [36, 37]. In the other hand, defecation problems that interfere with the patient's social life may not inversely related to the patient's age because pediatric patients are less bothered by defecation problems than adults [35].

As it is in the previous section, early investigation on the complain results proper treatments. This approach will avoid social problems in patients' later life [29]. Incontinence especially in the older child can be socially embarrassing, be difficult to cope with by the family, lead to poor school performance and thus negatively impact on the child's quality of life [38, 39]. Increasing severity of incontinence affects all aspect of quality of life including psychosocial and physical aspect [34]. Treatment of patients with Hirschsprung disease also requires attention to the psychosocial of the patient. The involvement of psychologists and mental health professionals should be considered in treating patients.

Patients who had undergone surgery may have fair or good quality of life but the outcome may not as be good as expected. Remain complains that extend in later life will affect how patient function throughout their life [38].

5. Conclusion

Patients' complaint including constipation, soiling, and incontinence seem to resolve in later life. Social satisfaction and quality life apparently normal in extensive majority of the general population despite being poorer than the normal healthy patient. It cannot be determine wheater a single-stage surgery will obtain sufficient outcome. It may be necessary to perform close follow-up throughout the years until the maximum functional outcome achieves.

References

[1] Rintala RJ, Pakarinen MP. Long-term outcomes of Hirschsprung's disease. Semin Pediatr Surg 2012; 21:336–43.

[2] Haricharan RN, Georgeson KE. Hirschsprung disease. InSeminars in Pediatric Surgery 2008 Nov 1 (Vol. 17, No. 4, pp. 266-275). WB Saunders.
[3] Karina SM, Dwihantoro A. Outcomes in patients with Hirschsprung disease following definitive surgery. BMC research notes. 2018 Dec;11(1):1-5.
[4] Langer JC. Hirschsprung disease. Fundamentals of pediatric surgery. 2011:475-84.
[5] Wester T, Granström AL. Hirschsprung disease—Bowel function beyond childhood. InSeminars in pediatric surgery 2017 Oct 1 (Vol. 26, No. 5, pp. 322-327). WB Saunders.
[6] Amiel J, Sproat-Emison E, Garcia-Barcelo M, Lantieri F, Burzynski G, Borrego S, Pelet A, Arnold S, Miao X, Griseri P, Brooks AS. Hirschsprung disease, associated syndromes and genetics: a review. Journal of medical genetics. 2008 Jan 1;45(1):1-4.
[7] Badner JA, Sieber WK, Garver KL, Chakravarti AR. A genetic study of Hirschsprung disease. American journal of human genetics. 1990 Mar;46(3):568.
[8] Collins L, Collis B, Trajanovska M, Khanal R, Hutson JM, Teague WJ, King SK. Quality of life outcomes in children with Hirschsprung disease. Journal of pediatric surgery. 2017 Dec 1;52(12):2006-10.
[9] Taguchi T, Matsufuji H, Ieiri S, editors. Hirschsprung's disease and the allied disorders: Status quo and future prospects of treatment. Springer; 2019 May 16.
[10] Levitt MA, Martin CA, Olesevich M, Bauer CL, Jackson LE, Peña A. Hirschsprung disease and fecal incontinence: diagnostic and management strategies. Journal of pediatric surgery. 2009 Jan 1;44(1):271-7.
[11] Bradnock TJ, Walker GM. Evolution in the management of Hirschsprung's disease in the UK and Ireland: a national survey of practice revisited. Ann R Coll Surg Engl 2011; 93:34–8
[12] Keputusan Menteri Kesehatan Republik Indonesia Nomor HK.01.07/MENKES/474/2017 tentang Pedoman Nasional Pelayanan Kedokteran Tata Laksana Penyakit Hirschprung
[13] Harwood R, Chhabra S, Kenny SE. Hirschsprung's disease. Surgery (Oxford). 2022 Oct 14.
[14] Neuvonen MI, Kyrklund K, Rintala RJ, Pakarinen MP. Bowel function and quality of life after transanal endorectal pull-through for Hirschsprung disease. Annals of surgery. 2017 Mar 1;265(3):622-9.
[15] Mueller CM, Beaunoyer M, St-Vil D (2010) Topical mitomycin-C for the treatment of anal stricture. J Pediatr Surg 45:241–244
[16] Drissi F, Meurette G, Baayen C, Wyart V, Cretolle C, Guinot A, Podevin G, Lehur PA. Long-term outcome of Hirschsprung disease: impact on quality of life and social condition at adult age. Diseases of the Colon & Rectum. 2019 Jun 1;62(6):727-32.
[17] Hohlschneider AM, Hustson JM. Scoring postoperative results. Anorectal malformations in children: embryology, diagnosis, surgical treatment, follow-up. 2006:351-9.
[18] Stensrud KJ, Emblem R, Bjørnland K. Functional outcome after operation for Hirschsprung disease—transanal vs transabdominal approach. Journal of pediatric surgery. 2010 Aug 1;45(8):1640-4.
[19] Davidson JR, Kyrklund K, Eaton S, et al. Long-term surgical and patient-reported outcomes of Hirschsprung Disease. J Pediatr Surg. 2021; 56:1502–11
[20] Levitt MA, Dickie B, Peña A. The Hirschsprungs patient who is soiling after what was considered a ‘successful’ pull-through. Semin Pediatr Surg. 2012; 21:344–53
[21] Granström AL, Husberg B, Nordenskjöld A, Svensson PJ, Wester T. Laparoscopic assisted pull-through for Hirschsprung's disease, a prospective repeated eval uation of functional outcome. J Pediatr Surg. 2013;48(12):2536–2539.
[22] Oh C, Lee S, Lee SK, et al. Difference of postoperative stool frequency in Hirschsprung disease according to anastomosis level in a single-stage, laparoscopy-assisted transanal endorectal pull-through procedure. Med (United States). 2016;95:1–5.
[23] Lawal TA, Chatoorgoon K, Collins MH, et al. Redo pull-through in Hirschprung’s disease for obstructive symptoms due to residual aganglionosis and transition zone bowel. J Pediatr Surg. 2011;46:342–7
[24] Widyasari A, Pravitasari WA, Dwihantoro A, et al. Functional outcomes in Hirschsprung disease patients after transabdominal Soave and Duhamel procedures. BMC Gastroenterol. 2018;18:56
[25] Huang WK, Li XL, Zhang J, Zhang SC. Prevalence, risk factors, and prognosis of postoperative complications after surgery for Hirschsprung disease. Journal of Gastrointestinal Surgery. 2018 Feb;22(2):335-43.
[26] Rescorla FJ, Morrison AM, Engles D, et al. Hirschsprung's disease. Evaluation of mortality and long-term function in 260 cases. Arch Surg 1992;127(8):934–41.
[27] Peppas G, Alexiou VG, Mourtzoukou E, Falagas ME. Epidemiology of constipation in Europe and Oceania: a systematic review. BMC Gastroenterol. 2008;8:5.
[28] Stensrud KJ, Emblem R, Bjørnland K. Functional outcome after operation for Hirschsprung disease--transanal vs transabdominal approach. J Pediatr Surg. 2010;45:1640–4.
[29] Keshtgar A, Ward H, Clayden G, de Sousa N. Investigations for incontinence and constipation after surgery for Hirschsprung's disease in children. Pediatric surgery international. 2003 Apr;19(1):4-8.
[30] Dasgupta R, Langer JC. Evaluation and management of persistent problems after surgery for Hirschsprung disease in a child. Journal of pediatric gastroenterology and nutrition. 2008 Jan 1;46(1):13-9.
[31] Zaslavsky C, Loening-Baucke V. Anorectal manometric evaluation of children and adolescents post surgery for Hirschsprung's disease. J Pediatr Surg 2003; 38:191–195.
[32] Kuwahara M, Iwai N, Yanagihara J, et al. Endosonographic study of anal sphincters in patients after surgery for Hirschsprung's disease. J Pediatr Surg 1999; 34:450–453.

[33] Fichtner-Feigl S, Sailer M, Höcht B, Thiede A (2003) Development of a new scoring system for the evaluation of incontinence and constipation in children. Coloproctol 25(1):10–15
[34] Aworanti OM, Mcdowell DT, Martin IM, Hung J, Quinn F. Comparative review of functional outcomes post surgery for Hirschsprung's disease utilizing the paediatric incontinence and constipation scoring system. Pediatric surgery international. 2012 Nov;28(11):1071-8.
[35] Bjørnland K, Pakarinen MP, Stenstrøm P, Stensrud KJ, Neuvonen M, Granström AL, Graneli C, Pripp AH, Arnbjörnsson E, Emblem R, Wester T. A Nordic multicenter survey of long-term bowel function after transanal endorectal pull-through in 200 patients with rectosigmoid Hirschsprung disease. Journal of Pediatric Surgery. 2017 Sep 1;52(9):1458-64.
[36] Conway SJ, Craigie RJ, Cooper LH, Turner K, Turnock RR, Lamont GL, Newton S, Baillie CT, Kenny SE. Early adult outcome of the Duhamel procedure for left-sided Hirschsprung disease—a prospective serial assessment study. Journal of pediatric surgery. 2007 Aug 1;42(8):1429-32.
[37] Jarvi K, Laitakari EM, Koivusalo A, Rintala RJ, Pakarinen MP. Bowel function and gastrointestinal quality of life among adults operated for Hirschsprung disease during childhood: a population-based study. Annals of surgery. 2010 Dec 1;252(6):977-81.
[38] Engum SA, Grosfeld JL (2004) Long-term results of treatment of Hirschsprung's disease. Semin Pediatr Surg 13(4):273–285
[39] Moore SW, Albertyn R, Cywes S (1996) Clinical outcome and long-term quality of life after surgical correction of Hirschsprung's disease. J Pediatr Surg 31(11):1496–1502