The Study of Anorectal angle in patients with Dyssynergic defecation VS. healthy subjects

Afsaneh Nikjooy, PhD,[1] Nader Maroufi, PhD,[1] Esmaeil Ebrahimi, PhD,[1] Homayoun Hadizadeh Kharazi, MD,[2] Bahar Mahjoubi,MD,[3] Hamidreza Saligheh Rad, PhD,[4]

1. *Department of Physical Therapy, Faculty of Rehabilitation Sciences, Iran University of Medical Sciences, Tehran, Iran.*
2. *Department of Radiology, Iran University of Medical Sciences, Tehran, Iran*
3. *Department of Colorectal Surgery, Iran University of Medical Sciences, Tehran, Iran*
4. *Research Center for Cellular and Molecular Imaging, Tehran University of Medical Sciences, Department of Medical Physics and Biomedical Engineering, Tehran University of Medical Sciences, Tehran, Iran*

Abstract

Statement of the Problem: Constipated patients with functional anorectal abnormalities complain of fecal evacuation difficulties in terms of incomplete evacuation, excessive straining, and need for manually assisted evacuation. Anorectal Angle which is normally maintained by the puborectalis sling muscles, helps to keep feces in the rectum. During defecation the pelvic diaphragm muscles relax (so the puborectalis sling relaxes) and the sharp bend between rectum and anus straightens; this makes the passage of feces from rectum to anus easier .Anismus (or dyssynergic defecation) refers to the failure of the normal relaxation of pelvic floor muscles during attempted defecation. The purpose of this study is to compare anorectal angle, in dyssynergic defecation patients, with healthy subjects, based on MR Defecography. Methodology & Theoretical Orientation: 22 constipated patients with dyssynergic defecation and 14 healthy asymptomatic control were participated in this study. 2 MR Defecography dynamic indices, including paradox (abnormal anorectal angle change), perineal descent during straining were measured in patients and healthy subjects. Findings: Paradox index had the highest sensitivity (95.45%) and specificity (92.86%) for detection of dyssynergic defecation, with an R2 value of near 1 (0.902). The sensitivity and specificity of perineal descent during straining were not high. Negative predictive value (92.85%) and Positive predictive value (95.45%) were only high in paradox index. Conclusion & Significance: Anorectal angle was deferent between patients with dyssynergic defecation from healthy controls. Hence, MR Defecography could be as a reliable tool to show the patients with paradoxical function of their pelvic floor muscles.

1. Chiarioni G, Heymen S, Whitehead WE (2006) Biofeedback therapy for dyssynergic defecation. World J Gastroenterol 12(44):7069-7074.

2. Colaiacomo MC, Masselli G, Polettini E, et al. (2009) Dynamic MR Imaging of the Pelvic Floor: a Pictorial Review. Radiographics 29(3): e35.

3. Rao SS (2008) Dyssynergic defecation and biofeedback therapy. Gastroenterol Clin North Am 37(3): 569-586.

4. Faubion SS, Shuster LT, Bharucha AE (2012) Recognition and management of nonrelaxing pelvic floor dysfunction. Mayo Clin Proc 87(2):187-193.
5. Rao SS (2010) Advances in diagnostic assessment of fecal incontinence and dyssynergic defecation. Clin Gastroenterol Hepatol 8(11):910-919.
6. Rentsch M, Paetzel C, Lenhart M, Feuerbach S, Jauch KW, Fürst A (2001) Dynamic magnetic resonance imaging defecography. Dis Colon Rectum 44(7):999-1007.



Biography

Afsaneh Nikjooy, is assistant professor of Physical Therapy, Department of Physical Therapy, at Iran University of Medical Sciences, Tehran, Iran. She is a member of the International Continence Society (I.C.S) and Iranian Continence society (Ir.C.S). She has worked in pelvic floor Physical Therapy for more than 14 years. She has managed several courses of pelvic floor Physical Therapy for master students in this field in Faculty of Rehabilitation, Iran University of Medical Sciences.

Email: afsanehnikjooy@yahoo.com