Future Perspectives in Management and Research of Fecal Incontinence

Essay

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List of Abbreviations

ABS	Artificial Bowel Sphincter
AREP	Anorectal electrophysiology
ARM	Anorectal manometry
CNS	Central Nervous System
DGP	Dynamic graciloplasty
EAS	External Anal Sphincter
EAUS	Endoanal ultrasound
EMG	Electromyography
FI	Faecal Incontinence
FIQL	Faecal Incontinence Quality of Life
FISI	Faecal Incontinence Severity Index

IAS	Intrinsic Anal Sphincter
ICS	International Continence Society
MRI	Magnetic Resonance Imaging
PCL	Pubococcygeal line
PET	Positron Emission Tomography
PNTML	Pudendus nerve terminal motor latency
POP	Pelvic organ prolapse
QOL	Quality of life
RCTs	Randomized controlled trials
RF	Radio frequency
SNS	Sacral nerve stimulation
SUI	Stress urinary incontinence

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INTRODUCTION

Fecal incontinence, according to the most used definition, is the involuntary loss of the stool or soiling at a socially inappropriate time or place. It is an important health issue that strongly affects patient quality of life and restricts their social activities. It is a common problem, with prevalence ranging from 2.2% to 15% in the community and up to 40% in nursing homes. **(Nelson, 2004)**

Fecal continence is a complex function that requires coordinated responses in the pelvic floor sphincter muscles and abdominal and anorectal muscles. Consequently, fecal incontinence occurs when the normal anatomy or physiology of the anorectal unit is disrupted. In most cases, different pathophysiological mechanisms are involved in the pathogenesis of fecal incontinence, resulting in multifactorial etiology. **(Rao, 2004 A)**

Fecal incontinence is no longer an untreatable disease. In almost all cases, it is possible to help patients with conservative management, operations, or with combinations. Nonsurgical treatment is the initial approach to the incontinent patient. It aims at improving continence, quality of life, psychologic well-being, and anal sphincter function.

(Baeten and Melenhorst, 2007)

The primary objective is to improve retraining performance. Multimodal rehabilitation involves pelviperineal kinesitherapy, biofeedback, volumetric rehabilitation and/or electrostimulation. All of the rehabilitation procedures are guided by manometric data. **(Pucciani et al, 2003)**

The anal encirclement procedure, originally described by Thiersch in 1891 for the treatment of complete rectal prolapse, has later been adopted for treatment of fecal incontinence. **(Baeten and Kuijpers, 2007)**

Primary sphincter repair is inadequate in most women with obstetric ruptures after vaginal delivery because most have residual sphincter defects and about 50% still experience incontinence. **(Pinta et al, 2003)**

Postanal repair was originally described by Parks as a method to improve fecal incontinence by restoring the anorectal angle and lengthen the anal canal. The procedure is simple to perform, safe, and requires minimum technology. The principal indication is denervation damage of the pelvic floor. **(Matsuoka et al, 2000)**

Patients with a completely destroyed anal sphincter or a large gap between both ends of the sphincters cannot be helped anymore with anal repair. For these patients, dynamic graciloplasty may be a good solution. **(Rongen et al, 2003)**

An alternative for dynamic graciloplasty is in some cases the artificial bowel sphincter.When conservative and operative treatment has failed to create an acceptable level of continence, the patient is in fact left with a perineal colostomy. **(Baeten and Kuijpers, 2007)**

The safety profile, efficacy, and simplicity of sacral nerve stimulation, even in patients with a limited defect of external sphincter and pudendal neuropathy, would raise consideration of using this therapy as the first-line

or second-line surgical therapy, rather than limiting its use for end-stage fecal incontinence. **(Tjandra et al, 2008)**

The most intriguing aspect for future research is the development of novel treatments. Of course, efforts will be directed to noninvasive (new drugs) or minimally invasive (bulking agents, miniaturized devices) procedures. **(Maeda et al, 2007)**

AIM OF THE ESSAY

The aim of this essay is to highlight, the future perspectives in management and research of fecal incontinence

Functional Anatomy and Physiology of the Anorectum

Anatomy of Rectum and Anal Canal:

The rectum is a 15- to 20-cm-long hollow muscular tube that extends from the rectosigmoid junction at the level of the third sacral vertebra to the anal orifice **(Fig. 1).** It is made up of a continuous layer of longitudinal muscle that interlaces with the underlying circular muscle. This unique muscle arrangement enables the rectum to serve both as a reservoir for stool and as a pump for emptying stool. Derived from the embryological hindgut, the upper rectum generally contains feces and can distend toward the peritoneal cavity,The lower part, derived from the cloaca, is surrounded by condensed extraperitoneal connective tissue and is generally empty in normal subjects except during defecation. **(Bharucha and Blandon, 2007)**

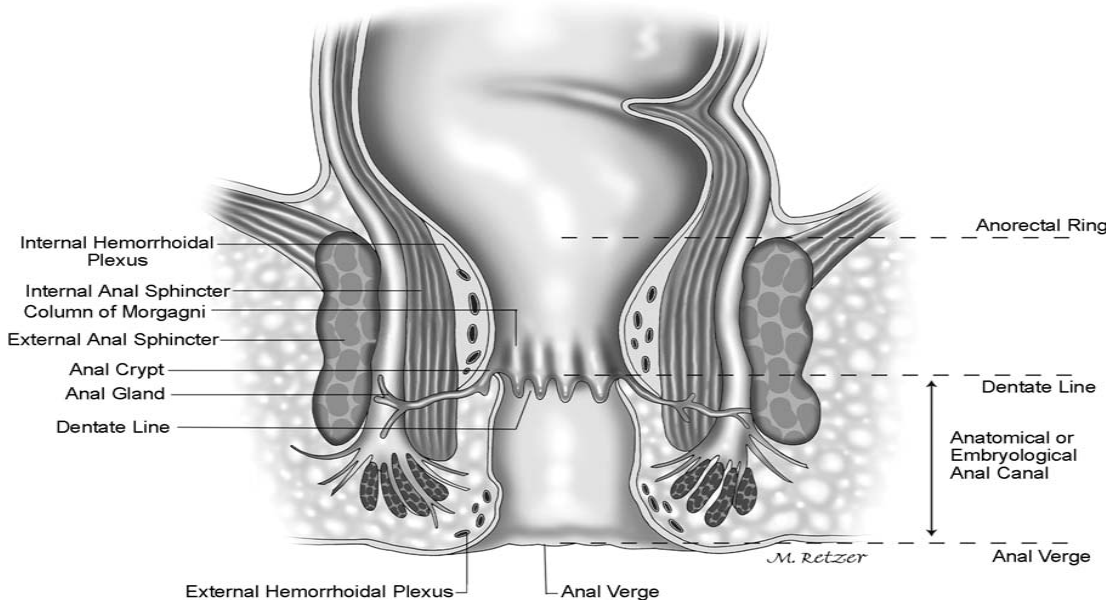

Fig. 1: *Anatomy of Anal canal.*

(José and Angelita , 2007)