The Orchestra Of Anal Continence: How Can It Affect The Management Decision?

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Abstract

Anal continence is a complex process that depends on the interplay of several integrating factors. The most important of these factors are the integrity and the function of the anal sphincters. Not all defects in the anal sphincters present with symptoms of fecal incontinence. This is mostly attributed to the collaboration of the other factors that compensates for the sphincter defect, yet to a certain extent. Proper understanding of how the anal continence is being orchestrated is imperative for decision making as it can serve to alter the management plan accordingly.

KEYWORDS: Anal continence; orchestra; management; decision
Dear Editor,

The mechanism of anal continence is rather complex as it relies on several integrating factors such as the integrity and competent innervation of the anal sphincters and pelvic floor muscles, the capacity of rectal reservoir, degree of rectal sensation, and consistency of fecal matter. The integrity and function of the anal sphincters appear to be the most influential among these factors [1].

Since the continence mechanism relies on the interplay of several collaborative factors, a defect in one factor could be compensated by the other intact factors. Therefore, we can expect that a defect in the anal sphincters caused by trauma may have a limited effect on the overall continence state as long as the other associated factors are intact. However, should one or more of the compensating factors fail as well, full blown fecal incontinence (FI) would eventually supervene [2].

An example for this unique collaboration is seen in the cases of obstetric injuries of the anal sphincters. These cases can remain asymptomatic for a considerable period of time until menopause when the pelvic floor muscles and the anal sphincters weaken, then the compensatory mechanism fails and symptomatic FI develops [3]. Sometimes the occult sphincter defects become symptomatic at an earlier point as after subsequent vaginal deliveries which induce further damage to the anal sphincters [4].

A recent publication [5] investigated the correlation between the size of the anal sphincter defect, anal pressures, and Wexner Continence Score [6]. The study also investigated the effect of patients’ age, sex, and type of trauma to the anal sphincters on this correlation. The authors came to a conclusion that the size of the external anal sphincter defect had a weak negative correlation with the maximal squeeze anal pressure and a weak positive correlation with Wexner Continence Score. Although these correlations were weak overall, they became significantly stronger in females, patients older than 50 years, and patients with post-fistulectomy or obstetric injuries implying that this group of patients requires further assessment before definitive management.

It is important to understand how the process of anal continence is being “orchestrated” by these various interacting factors. In the cases of post-traumatic FI, the size of the external anal sphincter defect at the resting state can differ from that during maximal squeeze of the external anal sphincter. The difference between the defect size at rest and at maximal squeeze of the sphincter can give an idea about the integrity of the other collaborating factors. On performing endorectal ultrasound (ERUS) for two different patients with post-traumatic FI who have the same exact defect size at the resting state, we can notice how both ends of the injured external sphincter approximate during squeeze which can be completely different in these two patients. This difference is mostly attributed to the integrity of the other factors, particularly the innervation of the sphincter muscles which, if compromised as well, can lead to more severe FI. Since the other collaborative factors can compensate for the traumatic sphincter defect, the clinical presentation and the degree of FI have no significant relation with the extent of the sphincter injury as Voyvodic and colleagues [7] concluded in their study.

The complexity of the physiology of the pelvic floor and the unique mechanisms by which the anal continence is being controlled should motivate us to follow a distinct policy for the management of FI, particularly the post-traumatic type, according to the characteristics of each
patient. This tailored management would help us choose the appropriate modalities for investigating each patient and hence, addressing all the existing problems collectively instead of treating one aspect of the problem (e.g. surgical repair of the anal sphincter muscles) and missing other aspects (e.g. pudendal neuropathy, weak pelvic floor muscles) that also require an equal amount of attention.

Conflict of interest

No conflict of interest or financial ties to be disclosed by the author

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