



Original article

The Role of Tridimensional Dynamic Ultrasound for Pelvic Floor Evaluation[☆]



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A B S T R A C T

Introduction: Dynamic endoanal ultrasound has emerged in recent years as a test that could replace the now existing tests in the diagnosis of pelvic floor disorders. The aim of this paper is to determine the usefulness of echodefecography in the diagnosis and evaluation of patients with symptoms of anorectal obstruction, and show the results obtained after its implementation in a pelvic floor unit, as a complementary tool that could replace conventional defecography.

Methods: In this retrospective study we analysed 66 patients with a mean age of 55 years (19–83), 61 women (92%). All dynamic ultrasound was performed in 3 dimensions and was correlated with symptoms and physical findings in the consultation. A descriptive and inferential study was performed to find a kappa correlation between physical examination and echodefecography.

Results: The reasons for consultation were: Anorectal obstruction syndrome 36 patients (54.5%), pelvic organ prolapse 27 patients (40.9%), and anorectal obstruction syndrome along with pelvic organ prolapse 3 patients (4.5%). The correlation of the 2 groups indicated that echodefecography diagnosed more patients with grade III rectocele, enterocoeles, and anismus than the combination of scan-ultrasound-manometry-proctoscopy (Kappa 0.26, 0.38 and 0.21, 95% CI: from 0.07 to 1.00, 0.15 to 1.00 and from 0.12 to 1.00, respectively) ($P < .001$). Conversely, echodefecography diagnosed less perineal descence (Kappa 0.28, 95% CI: 0.12–1.00).

Conclusions: Dynamic anal ultrasonography may have a role as a complementary test in patients with pelvic floor disorders, achieving diagnoses that would go undetected by inspection, physical examination and manometry.

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Utilidad de la ecografía dinámica tridimensional en el estudio del suelo pélvico

RESUMEN

Palabras clave:

Ecografía dinámica
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Introducción: La ecografía endoanal dinámica (EEAD) en 3 dimensiones ha surgido en los últimos años como una alternativa a las pruebas existentes en el diagnóstico de las alteraciones del suelo pélvico. El objetivo de este trabajo es determinar la utilidad de la ecodefecografía en el diagnóstico y evaluación de los pacientes que presentan síntomas de obstrucción defecatoria, así como mostrar los resultados obtenidos tras su implementación en una unidad de suelo pélvico.

Métodos: Estudio retrospectivo que analiza a 66 pacientes (61 mujeres), con una edad media de 55 años (19–83). Se realizó una EEAD y se correlacionó con los síntomas y los hallazgos exploratorios en consulta. Se realizó tanto un estudio descriptivo como inferencial, así como un índice Kappa para buscar correlación entre la exploración física y la EEAD.

Resultados: Los motivos de consulta fueron: síndrome de obstrucción defecatoria (SOD) 36 pacientes (54,5%), prolapso de órganos pélvicos (POP) 27 pacientes (40,9%) y SOD junto con POP 3 pacientes (4,5%). La correlación de ambos grupos indica que la EEAD diagnostica más pacientes con rectocele grado III, enterocoeles y anismos que la combinación de exploración-manometría-proctoscopia-ecografía bidimensional (Kappa 0,26; 0,38 y 0,21; IC 95%: 0,07-1,00; 0,15-1,00 y 0,12-1,00, respectivamente) ($p < 0,001$). Por el contrario, la EEAD diagnostica menos descensos del periné (Kappa 0,28; IC 95% 0,12-1,00).

Conclusión: La ecografía dinámica puede tener un papel relevante como prueba complementaria en el paciente con enfermedad del suelo pélvico, ya que permite diagnosticar procesos que mediante la inspección, la exploración física y la manometría pasarían desapercibidos.

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Introduction

Pelvic floor disorders are frequent, especially in women, in whom the incidence is between 12 and 20%.¹ Before prescribing further tests, a thorough clinical history and physical examination are necessary. So far, conventional defecography (CD) has been considered the “gold standard” for the study of disorders of the posterior compartment.² Nevertheless, it has its limitations; it must be performed in a specific radiological area, the patient is exposed to radiation and it does not allow sphincter evaluation.³

As an alternative to conventional tests, an interest in endoanal and endorectal ultrasonography (EEUS) has emerged in recent years. Murad-Regadas et al. described the technique for the assessment of disorders of the posterior compartment with a 360 transducer and 3D imaging rebuilding. In a study comparing it against defecography, Murad-Regadas et al. showed that it seemed to be just as effective in the diagnosis of abnormalities in the posterior (rectocele, intestinal intussusception and anismus) and mid (enterocoele, degree III)⁴ compartments.

Although several years have passed and various papers demonstrate its excellence, its application in daily practice has not yet spread.^{5–8}

In this manuscript, we show both the efficacy of EEUS in the diagnosis and assessment of patients with obstructed defecation syndrome symptoms and the results of its application

in a pelvic floor unit, as a complementary tool in the study of such patients.

Methods

In this retrospective observational study, 66 patients with pelvic floor outlet obstruction problems (SOD), a prolapse of the pelvic organ of the posterior compartment (POP) and anismus were assessed between January 2012 and January 2014.

Patients over 18 who met at least 2 Rome III criteria for obstructed defecation,¹ clinical evidence of POP or clinical-manometric anismus were included. Those with organic colon disease, anal stenosis, inflammatory bowel disease and pregnant women were excluded. All the patients signed an informed consent form.

All the patients underwent a diagnostic protocol which consisted of a complete clinical history, physical examination, proctoscopy, anorectal manometry and dynamic ultrasound scan.

The same practitioners who recorded the patients' prior medical history and carried out the physical examination (inspection, cutaneous-anal contractile reflex, perineal descent and rectal examination), manometry and proctoscopy, also performed the EEUS.

Manometry was performed with a 4-channel manometer (Laborie Medica, Bristol, United Kingdom). The length of the

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