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Effectiveness of a nutritional intervention in the reduction of gastrointestinal toxicity during teletherapy in women with gynaecological tumours

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KEYWORDS
Gynecologic tumours;
Diet low in oligosaccharides;
Disaccharides;
Monosaccharides and fermentable polyols;
Quality of life;
Gastrointestinal toxicity

Abstract
Objective: To evaluate whether nutritional intervention through a diet low in oligosaccharides, disaccharides, monosaccharides and fermentable polyols reduces acute gastrointestinal toxicity by pelvic teletherapy in patients with gynaecological tumours.
Material and methods: A prospective unicentric randomised clinical trial comparing patients on a diet low in oligosaccharides, disaccharides, monosaccharides and fermentable polyols versus a standard Mexican diet, designed to detect a decrease from 80% of grade 1–2 acute gastrointestinal toxicity in the normal diet group versus a 25% of acute gastrointestinal toxicity grade 1–2 in patients assigned to a diet low in oligosaccharides, disaccharides, monosaccharides and fermentable polyols.
Results: Thirteen patients were recruited per group, with a higher gastrointestinal toxicity in the normal diet group, grade 1–2 (85% vs 77%) and 3 (23% vs 0%) compared to the diet low in oligosaccharides, disaccharides, monosaccharides and fermentable polyols (p 0.16). The diet low in oligosaccharides, disaccharides, monosaccharides and fermentable polyols group had a lower symptom score at the end of treatment in the quality of life questionnaire of patients with cervical cancer (1.41 vs 1.85, p 0.01) and a lower mean deterioration in performance status (0.61 of 0.5 vs 0.23 of 0.43, p 0.049). 85% of the patients had an excellent attachment to the diet. No significant factors associated with the presence of grade 3 gastrointestinal toxicity were found.

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Conclusion: The implementation of a diet low in oligosaccharides, disaccharides, monosaccharides and fermentable polyols during treatment with pelvic teletherapy is a low cost and high attachment intervention, which decreases the deterioration of functional status and symptomatology at the end of treatment in patients with cervical cancer.

PALABRAS CLAVE
Tumour ginecológico;
Dieta baja en oligosacáridos;
Disacáridos;
Monosacáridos y polioles fermentables;
Calidad de vida;
Toxicidad gastrointestinal

Efectividad de una intervención nutricional en la disminución de la toxicidad gastrointestinal durante la teleterapia en mujeres con tumores ginecológicos

Resumen
Objetivo: Evaluar si la intervención nutricional mediante una dieta baja en oligosacáridos, disacáridos, monosacáridos y polioles fermentables disminuye la toxicidad gastrointestinal aguda por teleterapia pélvica en pacientes con tumores ginecológicos.
Material y métodos: Ensayo clínico prospectivo aleatorizado unicéntrico, que comparó a pacientes con dieta baja en oligosacáridos, disacáridos, monosacáridos y polioles fermentables contra una dieta normal mexicana, diseñado para detectar una disminución del 80% de toxicidad gastrointestinal aguda Grado 1-2 en el grupo con dieta normal a un 25% de toxicidad gastrointestinal aguda Grado 1-2 en pacientes con dieta baja en oligosacáridos, disacáridos, monosacáridos y polioles fermentables.
Resultados: Se reclutaron 13 pacientes por grupo, reportándose una mayor toxicidad gastrointestinal en el grupo de dieta normal grado 1-2 (85% vs 77%) y 3 (23% vs 0%) respecto a la dieta baja en oligosacáridos, disacáridos, monosacáridos y polioles fermentables (p 0.16), el grupo de dieta baja en oligosacáridos, disacáridos, monosacáridos y polioles fermentables tuvo un menor puntaje de sintomatología al final del tratamiento en el cuestionario de calidad de vida de las pacientes con cáncer cervicouterino (1.41 vs 1.85, p 0.01) y un menor deterioro promedio en el estado funcional (0.61 DE 0.5 vs 0.23 DE 0.43, p 0.049). El 85% de las pacientes tuvieron un apego excelente a la dieta. No se encontraron factores asociados a la presencia toxicidad gastrointestinal grado 3.
Conclusión: La implementación de una dieta baja en oligosacáridos, disacáridos, monosacáridos y polioles fermentables durante el tratamiento con teleterapia pélvica es una medida de bajo costo y alto apego, que disminuye el deterioro de estado funcional en las pacientes con tumores ginecoly la sintomatología al final del tratamiento en pacientes con cáncer cervicouterino.

Introduction

Malignant tumours of the cervix and uterine corpus represent the fourth and sixth leading tumours in women in terms of incidence, as well as the fourth and fourteenth leading tumours in terms of cancer mortality worldwide, respectively. In women in Mexico, cervical cancer is the second most common cancer in terms of incidence and mortality, while uterine cancer is the ninth most common cancer in terms of incidence and the thirteenth most common cancer in terms of mortality. These figures are expected to increase by 2020.[1,2]

Treatment with external radiotherapy or teletherapy is used in 60–71% of women with cervical cancer, as well as 38–45% of those with uterine tumours at some point in the course of their disease.[3–5] Its main toxicity is gastrointestinal, which occurs in mild to moderate grades in 70–90% of patients and in severe grades (3–5) in around 3%.[6] Its incidence and severity are increased by common factors such as prior surgery and concomitant chemotherapy, which doubles the risk of grade ≥3 gastrointestinal toxicity.[7]

Women who experience acute gastrointestinal toxicity during pelvic teletherapy experience a negative impact on their abdominal symptoms, which also affects their nutritional status and quality of life. Prolonging or suspending the treatment due to these symptoms increases the risk of achieving suboptimal outcomes in disease monitoring, life expectancy and quality of life.[8]

In recent decades, multiple strategies and interventions related to modifying technical aspects of the treatment have been developed to decrease gastrointestinal toxicity by means of teletherapy. Despite this, gastrointestinal toxicity remains the main adverse effect, and some measures cannot be used at all centres, due to the technical and economic requirements that they involve.[9–16]

Nutritional interventions are an easy-to-access, easy-to-implement option that may be used alone or in combination with other measures. However, their effectiveness in

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