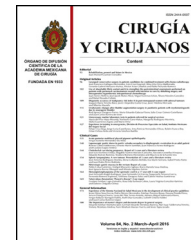




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ORIGINAL ARTICLE

A randomised controlled trial of preoperative oral immunonutrition in patients undergoing surgery for colorectal cancer: Hospital stay and health care costs[☆]



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KEYWORDS

Immunonutrition;
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Abstract

Background: The use of enteral formulas with immunonutrients in patients with gastrointestinal malignancies susceptible to surgery can reduce postoperative morbidity, at the expense of reduced infectious complications, with the consequent reduction in hospital stay and health care costs.

Material and methods: Prospective randomised study. 84 patients operated on a scheduled basis for resectable colorectal cancer were recruited. In the group YES IN Impact © Oral was administered for 8 days (3 sachets a day), compared with the NOT IN group who did not receive it.

Results: 40.5% (17) patients without immunonutrition suffered infectious complications vs 33.3% (14) of YES IN. In patients with rectal cancer NOT IN, 50% (8) suffered minor infectious complications ($p=0.028$). In each group (YES IN, NOT IN, colon and rectal cancer) when infectious complications were observed, the variables total hospital stay and costs doubled, with significant differences. These variables showed higher values in the group NOT IN compared with those who received immunonutrition, although these differences were not statistically significant.

Conclusions: NOT IN patients suffered infectious complications more frequently than YES IN, with significant results in the subgroup of patients with rectal cancer. The total hospital stay and

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PALABRAS CLAVE

Inmunonutrición;
Cáncer colorrectal;
Complicaciones
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costs were slightly higher in the group not supplemented, doubling in each category significantly (YES IN, NOT IN, colon and rectal cancer), when infectious complications were observed.

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Estudio prospectivo y randomizado sobre inmunonutrición oral preoperatoria en pacientes intervenidos por cáncer colorrectal: estancia hospitalaria y costos sanitarios

Resumen

Antecedentes: La utilización de fórmulas enterales con inmunonutrientes en pacientes con neoplasias gastrointestinales susceptibles de cirugía puede atenuar la morbilidad postoperatoria, a expensas de la disminución de complicaciones infecciosas, con la consiguiente reducción en la estancia hospitalaria y gastos sanitarios.

Material y métodos: Estudio prospectivo y randomizado. Se reclutaron 84 pacientes intervenidos de forma programada por cáncer colorrectal reseccable. En el grupo SÍ IN se administró en el preoperatorio Impact© Oral durante 8 días (3 envases al día), con respecto al grupo NO IN que no lo recibió.

Resultados: Un 40.5% (17) de los pacientes no inmunonutridos sufrieron complicaciones infecciosas frente a un 33.3% (14) de los inmunonutridos. En los pacientes con cáncer rectal NO IN, un 50% (8) sufrió complicaciones infecciosas menores ($p=0.028$). En cada grupo (SÍ IN, NO IN, cáncer de colon y recto) cuando se observaron complicaciones infecciosas, las variables estancia hospitalaria total y gastos se duplicaron, siendo estas diferencias significativas. Estas variables presentaron valores superiores en el grupo no inmunonutrido, con respecto del que recibió inmunonutrición, aunque estas diferencias no alcanzaron la significación estadística.

Conclusiones: Los pacientes no inmunonutridos sufrieron complicaciones infecciosas con mayor frecuencia que los inmunonutridos, con resultados significativos en el subgrupo de los pacientes con cáncer rectal. La estancia hospitalaria total y los gastos fueron levemente superiores en el grupo no suplementado, duplicándose en cada categoría de forma significativa (SÍ IN, NO IN, cáncer de colon y recto), cuando se observaron complicaciones infecciosas.

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Background

Malnutrition in hospitals and its significant prevalence has been widely reported since the seventies and varies from 19% to 80%, according to the country and type of patients studied.^{1,2} It is 15–40% in cancer patients at time of diagnosis, and up to 80–90% in cases of advanced disease, depending on the type and spread of the tumours. In patients with colorectal cancer (CRC) the prevalence of malnutrition ranges from 45% to 60%.^{3,4} Malnourished patients have higher postoperative morbidity and mortality, which involves an increased hospital stay and associated health costs of up to 50%, and poorer perceived quality of life, compared to well-nourished patients.^{5–7} The perioperative nutritional management of patients undergoing scheduled colorectal surgery has changed in line with scientific evidence, and currently oral supplements with immunonutrients are a therapeutic option.⁸ These immunonutrients or pharmaco-nutrients (arginine, ω -3 fatty acids, and nucleotides), in addition to regulating the immune response

of the host, maintain the functionality of the mucus barrier and help to modulate local or systemic inflammatory reaction, nitrogen balance and protein synthesis.^{9,10} In financial terms, nutritional supplements with immunonutrients are more costly than a normal diet (€144.4/patient vs €33.4/patient, respectively).¹¹ However, the reduced postoperative complications and hospital stay observed in many meta-analyses show substantial health cost savings, and demonstrate that immunonutrition is more cost effective compared to standard nutrition (€5668/patient vs €7092/patient, respectively).^{11–14} Therefore, in surgical patients with gastrointestinal cancers, enteral formulas with arginine, ω -3 fatty acids, and ribonucleic acid lower the incidence of infectious complications, shorten hospital stay without affecting mortality, and constitute a cost-effective measure.^{15–17} On the other hand, these research studies present many limitations in terms of their application in the specific group of CRC patients namely, the methodological quality of the individual research studies, the heterogeneity of the disorder suffered by the patients recruited and

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