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Management of hospital readmissions in internal medicine ☆

A. Zapatero-Gaviria [a,c], R. Barba-Martín [b,c,*]

[a] *Servicio de Medicina Interna, Hospital Universitario de Fuenlabrada, Fuenlabrada, Madrid, Spain*
[b] *Servicio de Medicina Interna, Hospital Rey Juan Carlos, Móstoles, Madrid, Spain*
[c] *Grupo de Gestión Clínica de la Sociedad Española de Medicina Interna (SEMI)*

Abstract The unplanned hospital readmission ratio is an unusual indicator of health care quality. Hospital readmission could be due to clinical or health care factors, to factors related to the patient and his/her social and familial setting, to factors related to the disease, or to a combination of all of them. The former could be avoided by designing effective interventions for the follow-up of the patients after discharge. We present a case of a male patient with a common clinical problem and propose the measures that could help to avoid his readmission. The article ends with the author's clinical recommendations.
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Gestión de los reingresos en Medicina Interna

Resumen El porcentaje de reingresos hospitalarios (no programados) es un indicador de la calidad de la atención sanitaria. El reingreso hospitalario puede deberse a factores clínicos y sanitarios, factores relacionados con el paciente y su entorno social y familiar, relacionados con la enfermedad o una combinación de todos ellos. Los primeros podrían ser evitados diseñando intervenciones efectivas para el seguimiento de los pacientes tras el alta. Presentamos un caso de un paciente con un problema clínico habitual y se plantean las medidas que podrían ayudar a evitar su reingreso. El artículo termina con las recomendaciones de los autores.
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Case report

A seventy-seven year old male is discharged from a department of internal medicine with diagnoses of resolved congestive heart failure, hypertensive heart disease, atrial fibrillation, mild anemia of chronic disease, chronic obstructive pulmonary disease, type 2 diabetes mellitus and mild cognitive impairment. The following treatment was indicated: salt-free diabetic diet, 20 mg of enalapril at

breakfast, 40 mg of furosemide at breakfast and lunch, 100 mg of acetylsalicylic acid at lunch, 25 mg of spirono-lactone per day, 20 mg of omeprazole at lunch, 850 mg of metformin at breakfast and dinner, 100 μg of inhaled salbu-tamol 2 puffs every 12 h, tiotropium bromide one puff every 24 h, 2 mg of acenocoumarol per day, except on Thursday and Saturday when the patient takes 1 mg (weekly dose 12 mg) and 20 mg of prednisone per day in tapering doses (20 mg 4 days, 15 mg 4 days, 10 mg 4 days, 5 mg 4 days and then discontinue). It was expected that the primary care physician would monitor the patient after hospital-ization. During the hospital stay, insulin was required to control the patient's hyperglycemia. At the time of dis-charge, the results from a number of laboratory tests had not yet been received, including those of the thyroid hor-mones. The definitive report on the abdominal computed axial tomography (CAT), performed as part of the study on the patient's anemia and which was initially reported as normal, had also not been received.

On reading the patient's medical history, it was noted that the patient had been admitted 8 months ago for decompensated heart failure and had been evaluated in the emergency department on two occasions in the last 12 months.

What measures can we institute to prevent this patient from being rehospitalized or from being admitted to the emergency department?

This type of patient is common in the departments of inter-nal medicine: A male in his eighth decade of life, who is admitted for heart failure with 6 other accompanying secondary diagnoses and who is treated at discharge with 10 different drugs. Indeed, as noted by a recent article by Barba et al.[1] analyzing the characteristics of patients hospitalized at a large number of departments of internal medicine, it has been observed that 30.4% of these types of patients were over 70 years of age, 60.4% had 6 or more diag-noses and that heart failure was the second most common DRG (diagnosis-related group). Moreover, the results of vari-ous laboratory and diagnostic imaging tests were unavailable at discharge, a frequent situation in daily practice. Monitor-ing by the patient's primary care physician was indicated.

This was a patient who, due to his clinical characteristics, had a high likelihood of readmission. Some 12.4% of patients discharged from internal medicine departments are read-mitted in less than 30 days with a diagnosis that falls with the same category that caused the previous admission. The readmission figures vary according to certain circumstances. In the United States, up to 19.6% of patients on Medicare are readmitted with 30 days.[2] For the specific case of conges-tive heart failure (CHF), the percentage is slightly higher, affecting 21% of patients.[3]

The percentage of readmissions is a classic indicator of hospital activity. It represents a significant cost both for the patient and for the system due to its impact on the patient's functional and psychological impairment and for its significant impact on expenditures.[4] The preven-tion of hospital readmission constitutes a clear example of cost-effective measures. Previous studies have shown considerable variability in the percentage of readmissions,

Table 1 Measures for preventing unnecessary readmissions.

- Identify patients at increased risk for readmission.
- Complete a medical discharge report.
- Identify the individual responsible for patient follow-up subsequent to discharge.
- Clinical coordination among the healthcare levels after discharge.
- Indicate the tests awaiting results or performance.
- List of outpatient follow-up appointments.
- Reconcile medications

based on the specific hospital and disease in question. The following factors related to the likelihood of readmission have been indicated: the characteristics and conditions of the patients themselves and their disease, the lack of a com-plete discharge report, communication problems between the various healthcare levels during the patient's transition from the hospital to the outpatient setting, the presence of someone responsible for follow-up, the lack of a plan for expected medical problems and clinical outcomes, pending diagnostic tests at discharge and problems related to pre-scription medication.[2,5] It has recently been reported that the percentage of readmissions may also be related to the admission criteria, with geographical variations observed for these conditions.[6]

The following are some of the measures that could be established to prevent hospital readmissions (Table 1).

Identify patients at increased risk for readmission

The first thing to consider when discharging a patient is whether or not the patient in question is a risk for read-mission. The prevention of readmission should be aimed at patients at risk. We cannot apply it broadly to all patients discharged from internal medicine departments, as it would not be feasible to institute a readmission prevention pro-gram that indiscriminately includes all patients admitted to our departments. In addition, the associated costs would make the program inefficient. After reviewing the litera-ture, we find it noteworthy that there are few validated models for predicting the risk of readmission. A number of the models that we do have are difficult for clinicians to apply because they require not only clinical information but also administrative and socioeconomic data, which is not always available to physicians.[7,8] The so-called LACE index has recently been proposed,[9] which is based on 4 parameters: the mean length of hospital stay (L), acuity of the admission (A), the presence of comorbidity (mea-sured by the Charlson index) (C) and the number of visits to the emergency department in the past 6 months (E). This indicator assigns a number of points to each item and seems to have a substantial discriminative ability for pre-dicting readmissions.[9] However, the practical application of this index may be difficult because we often do not know the number of visits to the emergency department, espe-cially if they have been made to different hospitals. Gamboa et al. (2002) published a healthcare model for readmit-ted patients. The initial phase of the model consisted of