

Observation unit activity in a community hospital

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CONFLICT OF INTEREST:

None

Objective: To describe the characteristics of patients admitted to our community hospital emergency observation unit; calculate the percentage of patients discharged, admitted, or transferred to other hospitals; and evaluate the reasons for hospital admission and consistency between emergency and hospital ward discharge diagnoses.

Methods: Data for patients admitted to a 24-bed observation unit were studied. Variables analyzed were age, sex, comorbidity, destination on discharge from the emergency department (home, observation unit, hospital ward, or transfer to another hospital), consistency between emergency department and hospital ward diagnoses, and admission appropriateness (defined by a stay of > 72 hours on the hospital ward).

Results: A total of 307 patients were included. The mean (SD) age was 63 (20) years and 41% were female. Fifty-one percent had a chronic condition related to the reason for seeking emergency care. The reason for observation unit admission that was of highest prevalence was chest pain (16.6%). Forty-six percent were discharged home from the observation unit and 46% were admitted, primarily to specialized medical wards. The most common discharge diagnoses were acute coronary syndrome (12.1%), pneumonia (10%), heart failure (7.1%), respiratory failure (6.4%), and stroke (6.4%). The hospital discharge diagnosis was consistent with the emergency department diagnosis in 89.3% of the cases and admission to a ward was considered appropriate in 93%.

Conclusions: Observation unit patients are usually over 60 years old and have chronic diseases related to the reason they require emergency care. Most hospital admissions made from the observation unit are appropriate and there is good consistency between the emergency department diagnosis and the ultimate hospital discharge diagnosis. [Emergencias 2009;10:95-98]

Key words: Observation unit. Emergency department. Patient care management.

Introduction

Emergency departments (ED) are characterized by high demand which has risen in recent years^{1,2}, and this progressive increase is a great cause for concern in our setting. Various factors have been reported to explain this: population growth and aging, increased prevalence of chronic diseases, accessibility to ED, excessive expectations regarding hospital services and immediate medical attention and, very often, the use of ED as an alternative to ambulatory care for non-emergencies³.

ED overcrowding has negative repercussions on observation units (OU), with frequent periods of collapse⁴.

The purpose of an OU is admit those patients whose initial physical examination and ED com-

plementary tests do not allow clear diagnoses and whose clinical evolution and response to treatment requires observation over a certain period of time. Thus, OU have the following functions: to evaluate clinical evolution, treat and stabilize acute conditions, and evaluate the need for hospital admission. The OU at the Hospital de Jerez was created in 2002, with 17 beds initially, to which a further 7 beds were added later in response to the growing demand. The 24-bed OU is staffed as follows: 3 physicians, one of whom is the ED coordinator, 3 nurses, 3 auxiliary nurses and 1 porter.

In order to determine the real situation regarding OU care activity, we performed a study whose specific objectives were to describe the profile of the patients admitted, quantify the percentage of patients discharged, admitted to hospital or

transferred to other medical centres, and in the group of patients admitted, to evaluate hospital admission criteria and correlation with diagnoses at hospital ward discharge.

Method

We performed a descriptive, prospective, observational study of activity in a 24-bed OU at a 533-bed secondary hospital. The OU equipment included electrocardiography, pulsioximetry and non-invasive arterial blood pressure devices. The study included patients admitted to OU during the day shift on nine randomly selected days in the months of November and December 2007. Data collection included: age, gender, comorbidity (with medical history, with chronic pathology, with chronic pathology related to reason for ED visit), outcomes (discharge home, OU stay pending clinical evolution, hospital admission or transfer to another hospital), correlation between ED diagnosis and hospital diagnosis (obtained from hospital ward discharge report), days of hospital ward admission and appropriateness (defined as hospital stay > 72 hours). Data analysis was performed using Windows SPSS 15.00

Results

A total of 23,306 patients visited our General and Maternal-Infant ED of the Hospital de Jerez during November and December 2007 (382 ED visits per day). Of these, 14,192 (60.9%) visited the General ED, and 7.9% required hospital admission. We included 307 patients in the present study, admitted to OU during the day shift on nine randomly selected days (mean 34 patients per day).

Table 1 shows patient characteristics. Notable findings: of 142 patients admitted, the majority (131; 92%), were referred for medical specialist attention, mainly in the departments of Internal Medicine 23.7% (31), Cardiology 22.1% (29), Pneumology 16% (21) and Digestive tract 15.3% (20). Eleven patients were admitted to surgical wards, mainly otorhinolaryngology 36.4% (4) and general surgery 27.3% (3).

The most common reason for admission to OU was chest pain (16.6%, 51 patients) and the reasons for hospital admission are shown in Table 2. The most common hospital discharge diagnoses were: acute coronary syndrome 12.1% (17), pneumonia 10% (14), heart failure 7.1% (10),

Table 1. Characteristics of the 307 patients admitted to the Observation Unit

Age (years)	63.5 ± 19.8
Gender [n (%)]:	
• Male	180 (58%)
• Female	142 (46%)
Comorbidity [n(%)]:	
• Related with admission	157 (51%)
• Unrelated with admission	71 (23%)
• No comorbidity	79 (26%)
Destination [n (%)]:	
• Hospital discharge	142 (46%)
• Observation	14 (5%)
• Transfer to another medical centre	9 (3%)
• Hospital admission	142 (46%)

respiratory failure 6.4% (9) and stroke 6.4% (9). Concordance between ED and hospital ward definitive diagnoses was 89.3%. The percentage of "appropriate admission" to hospital was 93%.

Discussion

According to the accreditation standards for ED services published by the Sociedad Española de Urgencias y Emergencias (SEMES)⁶, an OU should have the capacity to attend 10% of the daily ED demand. In 2000, Montero et al analyzed the situation of ED observation units in Spain; they concluded that more than half the national hospitals had insufficient OU beds⁵.

A mean 34 patients per day were attended during the day shift in our OU during the study period, which reflects the situation of attention overload. The main reason for this situation, which has become commonplace, is the use of the observation area as a pre-hospitalization unit while awaiting a hospital bed⁷.

The lack of conventional hospitalization resources affects the dynamics of OU attention, with negative repercussions on patient privacy, monitoring and treatment of acute diseases.

Observation areas were designed for selected patient treatment and evaluation; in theory, they were areas to place patients while diagnostic uncertainties were being resolved and acute processes were being treated rapidly, thus avoiding unnecessary hospitalization^{8,9}. To avoid excessive use of these areas, correct patient selection is required, with well defined clinical profiles and treatment time periods. However, the reality is that these functions are being subverted, and delayed hospitalization has caused the OU to become a pre-hospitalization area with waiting times exceeding 24 hours in a high percentage of cases. Patients clearly meeting the criteria for conventional

Table 2. Most frequent diagnoses in patients admitted to hospital wards from the Observation Unit

Diagnosis	Nº of cases (%)
Acute coronary syndrome	17 (12)
Pneumonia	13 (9.2)
Heart failure	11 (7.7)
Respiratory failure	9 (6.3)
Stroke	9 (6.3)
Exacerbation COPD	7 (4.9)
Cardiac arrhythmia	6 (4.2)
Syncope	6 (4.2)
Abdominal pain	6 (4.2)
Bowel haemorrhage	5 (3.5)
Abscess	4 (2.8)
Pancreatitis	3 (2.1)
Hepatic encephalopathy	3 (2.1)
Pyelonephritis	3 (2.1)
Other	40 (28.2)

COPD: Chronic obstructive pulmonary disease.

hospital admission are not those who should be placed in these areas, which reflects inappropriate use¹⁰. In our study, the most frequent clinical profile of patients admitted to the OU was: male, mean age 63.5 years, with chronic pathology which was directly related with the reason for his admission. Only 26% of the sample analyzed did not have a related medical history. The percentage of patients admitted, 46%, is similar to that reported in other studies^{4,11}. The most frequent destinations was the department of Internal Medicine, followed by Cardiology, and the most frequent diagnoses were acute coronary syndrome, pneumonia and heart failure.

OU quality indicators have been established, including the percentage of ED patients attended by the OU and the percentage of admissions from ED¹². In addition, other indicators have been proposed, such as mean stay time, demographic characteristics and most frequent diagnoses⁵.

We used two novel variables to evaluate the adequacy of the criteria for hospitalization from ED. The first was "diagnostic concordance", comparing the diagnosis for admission from ED with the definitive diagnosis made in the hospital ward discharge report. The second was "appropriate admission" defined as hospital ward stay longer than 72 hours. Our analysis showed values of 89.3% and 93% for these two variables, respectively. For evaluating quality of care, these two variables may be useful, but further studies are required to validate them as indicators of quality.

To prevent OU overcrowding, an essential function of ED physicians is to regulate entry and regularly review those patients already admitted. Precise knowledge of the profile and the most frequent diagnoses are useful to optimize the use of the available resources¹³. All this leads to the need

to design and apply real protocols for OU admission^{14,15}.

As mentioned, the main reason for OU overcrowding is the presence of patients awaiting hospital ward beds. The evacuation of these patients does not depend on the ED itself, which highlights the need for co-ordinated bed management by the different hospital departments and the Hospital Management¹⁶. Recently, SEMES has published a monograph on ED care management which includes alternatives to conventional hospitalization, such as short-stay units¹⁷ or homecare programs^{18,19}.

The main limitation of this study is that it analyzed the dynamics of OU work during 9 days of day-shift activity, thus excluding that corresponding to afternoon-evening and night shifts. The introduction of two new variables ("diagnostic concordance" and "appropriate admission"), not previously described, may be useful to evaluate the appropriateness of hospital admissions from ED, although they still require application in other studies for their validation as indicators of quality.

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Actividad asistencial en la unidad de observación de un hospital de segundo nivel

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Objetivos: Describir el perfil de los enfermos ingresados en el área de observación (AO), cuantificar el porcentaje de enfermos dados de alta, ingresados o derivados a otros centros hospitalarios y evaluar, en los enfermos ingresados, los criterios de ingreso hospitalario y la correlación con el diagnóstico al alta de la planta de hospitalización.

Método: Se analizaron de forma prospectiva los enfermos ingresados en un AO de 24 camas. Las variables del estudio fueron: edad, sexo, comorbilidad, destino (alta, observación, ingreso, traslado a otro hospital), correlación entre el diagnóstico en urgencias y en planta de hospitalización, días de ingreso en planta y el parámetro "ingreso adecuado", definido como estancia en planta de hospitalización superior a 72 horas.

Resultados: Se incluyeron 307 enfermos (edad media 63 ± 20 años, 41% mujeres). El 51% presentaba comorbilidad relacionada con el motivo de consulta en urgencias. El motivo de ingreso más prevalente en el AO fue la evolución de dolor torácico (16,6%). El 46% fue dado de alta desde el AO y otro 46% fue ingresado, principalmente en salas de especialidades médicas. Los diagnósticos de alta hospitalaria más frecuentes fueron el síndrome coronario agudo (12,1%), la neumonía (10%), la insuficiencia cardiaca (7,1%), la insuficiencia respiratoria (6,4%) y el accidente cerebrovascular (6,4%). La concordancia diagnóstica entre urgencias y el alta hospitalaria fue del 89,3%, y el porcentaje de "ingreso adecuado" en planta fue del 93%.

Conclusiones: Los enfermos ingresados en el AO suelen ser mayores de 60 años, con enfermedades crónicas relacionadas con el motivo de consulta, y la mayoría de ingresos que se realizan desde el AO son adecuados y existe una buena correlación entre el diagnóstico de urgencias y el diagnóstico final al alta. [Emergencias 2009;21:95-98]

Palabras clave: Unidad de observación. Urgencias. Actividad asistencial.