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Early discharge in Mild Acute Pancreatitis. Is it possible? Observational prospective study in a tertiary-level hospital

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ABSTRACT

Background and aims: In acute pancreatitis (AP), first 24 h are crucial as this is the period in which the greatest amount of patients presents an organ failure. This suggests patients with Mild AP (MAP) could be early identified and discharged. This is an observational prospective trial with the aim to demonstrate the safety of early discharge in Mild Acute Pancreatitis (MAP).

Methods: Observational prospective study in a third level single centre. Consecutive patients with AP from March 2012 to March 2014 were collected. Inclusion criteria: MAP, tolerance to oral intake, control of pain, C Reactive Protein <150 mg/dL and blood ureic nitrogen < 5 mg/dL in two samples. Exclusion criteria: pregnant, lack of family support, active comorbidities, temperature and serum bilirubin elevation. Patients with MAP, who met the inclusion criteria, were discharged within the first 48 h. Readmissions within first week and first 30 days were recorded. Adverse effects related to readmissions were also collected.

Results: Three hundred and seventeen episodes were collected of whom 250 patients were diagnosed with MAP. From these, 105 were early discharged. Early discharged patients presented a 30-day readmission rate of 15.2% (16 patients out of 105) corresponding to the readmission rates in Acute Pancreatitis published to date. Any patient presented adverse effects related to readmissions.

Conclusion: Early discharge in accurately selected patients with MAP is feasible, safe and efficient and leads to a decrease in median stay with the ensuing savings per process and with no increase in readmissions or inmorbi-mortality.

Background and aims

Acute pancreatitis (AP) is a broad-ranging entity, which can go from a mild self-limiting disease that requires merely symptomatic treatment to a severe life-threatening illness that may require intensive care admission and aggressive treatment [1].

Our main objective in cases of AP is early detection of patients with severe condition or who are likely to worsen [2].

The first 24–48 h are crucial, as this is the period in which the highest proportion of patients present organ failure [3,4]. Patients whose AP is not potentially severe can be identified within this period of time and be discharged early without increasing the risk of morbidity and mortality or readmissions.

The main object of this observational prospective trial is to demonstrate the safety of early discharge in Mild Acute Pancreatitis (MAP) and to perform a comparative cost analysis so as to estimate the ensuing savings. As secondary objectives, we aimed to identify patients who might require admission in spite of their mild status and the potential risks of readmission.

Methods

This is a single-centre prospective observational study at a tertiary-level hospital. All consecutive adult patients (over 18 years

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old) diagnosed with AP and admitted to our centre from March 2012 to March 2014 were included. Diagnosis was based on characteristic abdominal pain, combined with elevated serum levels of pancreatic enzymes, as recommended in guidelines [1].

Data on demographic, clinical and laboratory parameters were recorded during the patient's admission to the emergency department.

At admission, patients were distributed depending on their severity according to Determinant Based Classification (DBC) [5] and the Atlanta Modified Classification [6]. Patients without organ failure and no local or systemic complications were classified as MAP in both these classifications and began oral intake, passing from liquids to a solid diet depending on tolerance. The patients were re-evaluated 24 h after admission.

Prior to entry in the study, the following inclusion criteria were applied: tolerance of oral intake, good pain control with first step analgesia according to the WHO (World Health Organization) scale [7], C-reactive protein (CRP) < 150 mg/dL and blood ureic nitrogen (BUN) increasing no more than 5 mg/dL in two consecutive samples separated by an interval of 24 h. Exclusion criteria were pregnancy, lack of family support, baseline active comorbidities, temperature and level of serum bilirubin above the upper normal limit.

Patients with MAP who met the inclusion criteria were discharged within the first 24–48 h. The remainder of patients were admitted. Fig. 1 is a flow chart displaying a chronological history of patient management.

An ultrasound was performed during the stay in the emergency service or before a follow-up visit one week later in cases in which the aetiology was not known.

Monitoring

Patients were followed up by phone for 3 days after early discharge. They were provided with a phone number to contact one of the members of the team in case they had doubts while at home. One week later they were seen at the outpatient unit.

Readmissions to the emergency service (during the first 7 days after admission and during the first month) were recorded. Adverse effects above I according to the Clavien-Dindo classification [8] associated with readmissions were also recorded.

Data collection

Data were gathered consecutively and prospectively, and were entered into a Microsoft Office Access 2007 database in a protected form.

Comparative cost analysis

Data from patients with a diagnosis of AP in the two years before the beginning of the study were recorded retrospectively. The cost of one day's admission to hospital was calculated by our hospital's Accounts Department, and median stays before and after the beginning of the protocol were compared.

Data analysis

The sample size was calculated according to a proportion of readmission of 0.15. Accepting an alpha bilateral value of 0.05 and a 7.5% maximum error, the number of patients necessary was 88.

IBM 21 SPSS Statistics Data Editor was used. Normality tests for all the variables were performed. Homogeneity tests between groups were also performed before making comparisons.

Data are presented as means and standard deviations in continuous variables with a normal distribution, and as medians and ranges if the continuous variable did not follow normal distribution. For categorical variables, data are presented as percentages.

Extrapolations from the data to the general population are given with a 95% confidence interval.

Inferential analysis was used to infer between-group comparisons with the Student t-test if continuous variables followed a

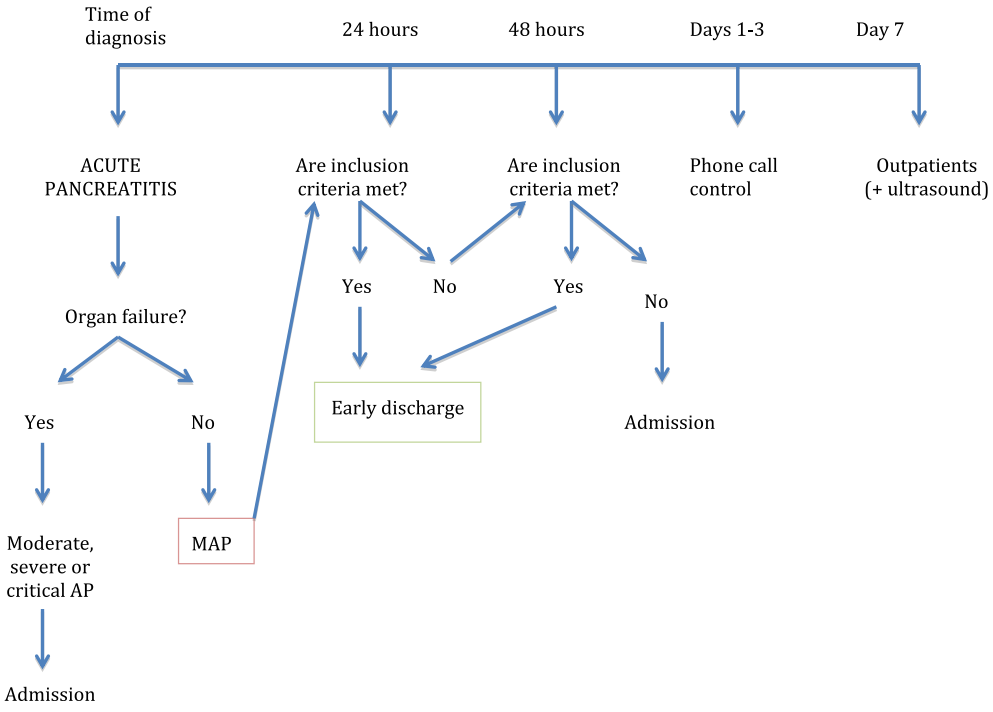

Fig. 1. Flow chart presenting the chronological history of the management of patients with AP.