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Risk Factors for Unplanned Admission After Ambulatory Laparoscopic Cholecystectomy☆

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ABSTRACT

Introduction: Laparoscopic cholecystectomy (LC) performed as day-case (DC) surgery has more unexpected admissions than most day-case procedures. We revised the literature about factors associated with unexpected admissions in LC as well as reconversion to open laparotomy and we investigate these factors in our series.
Methods: Retrospective cohort study, period 1999–2013 (511 cases). We study factors that in the literature have been associated with unpredicted admissions in DC or reconversion.
Results: In the period 1999–2013 511 patients were included (166 male/345 female), median age 53 years. Surgical indication was: Symptomatic cholelithiasis (386 cases), previous episode of cholecystitis (52 cases), biliary pancreatitis (47 cases) and ERCP for common duct stones (11cases). 70% were discharged on the same day, 13% overnight and 17% stayed longer than 24 h. Reconversion rate was 3.3%, readmission rate 2.8% and reoperation rate 1.2%. Bivariant study showed significant statistical association with age 65 or, ASA classification II or higher, previous admission for acute cholecystitis and logistic regression showed them to be significantly associated with readmission (sensibility: 10.6%, specificity: 98.6%, R^2 coefficient: 0.046–0.066).
Conclusions: The model's predictive capacity is null. We think that factors other than indications are responsible for the high proportion of failure showed by LC in DC.

Factores asociados a ingreso no previsto tras colecistectomía laparoscópica en régimen de cirugía mayor ambulatoria

Palabras clave:
Colecistectomía laparoscópica
Cirugía mayor ambulatoria
Ingreso no previsto
Predictores

RESUMEN

Introducción: La colecistectomía laparoscópica (CL) como cirugía mayor ambulatoria (CMA) presenta un número de ingresos imprevistos mayor que otros procedimientos de CMA. Revisamos la bibliografía referente a factores asociados a ingresos imprevistos en CMA y a conversión a cirugía abierta e investigamos estos datos en nuestra serie.

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Método: Estudio de cohorte retrospectiva del periodo 1999 a 2013 (511 casos). Se estudian los factores que en algún estudio previo han mostrado una posible asociación de ingreso no previsto o conversión.

Resultados: En el periodo 1999–2013 fueron incluidos 511 pacientes (166 hombres/345 mujeres) con mediana de edad de 53 años. La indicación quirúrgica fue: colelitiasis sintomática (386 casos), episodio previo de colecistitis (52 casos), pancreatitis biliar (47 casos) y CPRE por coledocolitiasis (11 casos). El 70% fueron dados de alta en el mismo día, ingresaron una noche el 13% y más de 24 h, el 17%. La tasa de conversión fue del 3,3%, la de reingreso del 2,8% y la de reintervención del 1,2%. El estudio bivariante muestra asociación estadística significativa entre edad mayor de 65 años, clasificación ASA II o superior, ingreso previo por colecistitis y pared vesicular engrosada en ecografía. La regresión logística identifica 3 factores predictores independientes: edad mayor de 65 años, clasificación ASA II o superior, ingreso previo por colecistitis. (sensibilidad: 10,6%; especificidad: 98,6%; coeficiente R^2: 0,046–0,066).

Conclusiones: La capacidad predictiva del modelo es nula. Pensamos que hay otros factores ajenos a las indicaciones que son responsables del elevado porcentaje de fallo de CMA que muestra la CL.

Introduction

Laparoscopic cholecystectomy (LC) is at present not a new technique. Next year will be the 30th anniversary of the first LC by Mühe in 1985.[1] In France Mouret started to use the technique in 1987, while in the USA McKerrnan and Saye first used it in 1988.[1] although it was popularised by Reddick and Olsen, who published their first description of ambulatory cholecystectomy in 1990 (A-CC).[2] LC was swiftly accepted in Spain, coinciding with the development and expansion of ambulatory surgery (AS).[3] Nevertheless, it has not become general as AS in our country for reasons that are not very clear, perhaps due to the fear of serious postoperative complications after discharge[4] or the difficulty of fitting it into the planned working schedule of major hospitals.[5]

On the other hand, the number of unplanned admissions following AS-CC is far higher than it is after other AS[6] procedures. Attempts have been made to improve these results by studying the factors associated with unplanned admission after AS-CC with varying results.[7–11]

We have been performing AS-CC in Laredo Hospital since 1999.[12] Our inclusion criteria for AS-CC are not very restrictive and in general do not differ from those used in other AS procedures, such as inguinal hernia. This is why we believe that our series may be of use in investigating the factors associated with the failure of AS in LC.

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Method

Study Design, Cases and Inclusion Criteria

We carried out a retrospective cohort study by revising all of the cases included in the computerised surgical waiting list system for the procedure ''laparoscopic cholecystectomy'') (CIE-9-mc 51.23) with ''AS'' as the admission mode from 1999 to 2013. The inclusion criteria for AS-LC were: indication of cholecystectomy due to symptomatic or complicated cholelithiasis (acute cholecystitis, acute pancreatitis, choledocholithiasis) and the absence of contraindications for AS due to medical reasons (ASA I and II and stable ASA III) or social reasons (patient able to comprehend self-care, living accompanied by responsible family members less than 45 min transport time from the hospital and with appropriate facilities in their home). During this 14 year period there have been many changes in the staff of the Surgery Department so that, in a 6-surgeon unit, the cases included in this revision were indicated and operated on by 15 different surgeons.

Surgery and Postoperative Period

Patients are admitted to hospital on the day of surgery at 07:30. The day before admission, in the evening, they are given a dose of low molecular weight heparin in their primary health care centre as prophylaxis against thromboembolic disease. They are operated on at the first hour of the surgical session, usually just one case of cholecystectomy but occasionally 2, so that the last case does not finish later than 12:00. Antibiotic prophylaxis with Cefazolin 2g is given in a single dose prior to the operation in patients with a history of cholecystitis, pancreatitis, choledocholithiasis or those who are older than 70 years old.

The anaesthesia technique has evolved over the period that includes the entire series. Systematic prophylaxis is given