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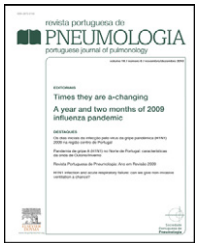

ORIGINAL ARTICLE

Surgical lung biopsy for diffuse lung disease. Our experience in the last 15 years

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KEYWORDS
Diffuse lung disease;
Lung biopsy;
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Abstract
Introduction: Surgical lung biopsy is a technique that presents a morbi-mortality rate of considerable importance. We analyze our experience with surgical lung biopsies for the diagnosis of diffuse lung disease and the effect produced on the indications for surgical biopsy in these pathologies after the publication of the consensus of the ATS (American Thoracic Society) and ERS (European Respiratory Society) for Idiopathic Pulmonary Fibrosis (IPF).
Patients and methods: We performed a retrospective review of 171 patients operated between January 1997 and December 2011. We divided the series into 2 groups: group 1 (operated between 1997 and 2002) and group 2 (operated between 2003 and 2011). Suspected preoperative diagnosis, respiratory status, pathological postoperative diagnoses, percentage of thoracotomies, mean postoperative stay and perioperative morbidity and mortality were analyzed.
Results: Group 1 consisted of 99 patients and group two 72. The most frequent postoperative diagnoses were: usual interstitial pneumonia and extrinsic allergic alveolitis. There were ten (5.84%) deaths. Death was caused by progressive respiratory failure that was related to interstitial lung disease in 7 (70%) of 10 cases, alveolar haemorrhage in 2 (20%) and heart failure in 1 (10%).
Conclusions: Since the publication of the ATS and ERS consensus on the IPF, we have observed a noticeable decrease in the number of indications for surgical lung biopsy. This technique, though simple, has a considerable morbidity and mortality.

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PALAVRAS-CHAVE
Doença pulmonar difusa;
Biópsia pulmonar;
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Biópsia pulmonar cirúrgica na doença pulmonar difusa. A nossa experiência nos últimos 15 anos

Resumo
Introdução: A biópsia pulmonar cirúrgica é uma técnica com uma morbimortalidade não negligenciável. Este trabalho resulta da experiência adquirida na realização de biópsias pulmonares cirúrgicas para o diagnóstico da doença pulmonar intersticial difusa, bem como pelo efeito provocado sobre as indicações da biópsia cirúrgica nesta entidade, após a publicação do consenso da ATS (American Thoracic Society) e da ERS (European Respiratory Society, para Fibrose Pulmonar Idiopática (FPI), em 2000 e 2002.
Métodos: Revisão retrospectiva de 171 doentes intervencionados entre Janeiro de 1997 e Dezembro de 2011. A série de doentes foi dividida em dois grupos: o grupo 1 (operados entre 1997 e 2002) e o grupo 2 (operados entre 2003 e 2011). Os registos efectuados foram a suspeita diagnóstica pré-operatória, o estado respiratório, o diagnóstico patológico pós-operatório, a percentagem de toracotomias, a média de internamento hospitalar, além da morbilidade e mortalidade intra-hospitalares.
Resultados: Grupo 1 constituído por 99 doentes e o grupo 2 por 72. Os diagnósticos pós-operatórios mais frequentes foram a pneumonia intersticial usual e a alveolite alérgica extrínseca. Houve 10 mortes (5,84%). Em 7 (70%) dos 10 casos, a morte foi causada por progressão da insuficiência respiratória provocada pela doença subjacente, em 2 (20%) por hemorragia alveolar, e em um caso (10%) por insuficiência cardíaca.
Conclusões: Desde a publicação do consenso da ATS e da ERS na FPI, observou-se uma clara diminuição no número de indicações para a biópsia pulmonar cirúrgica. Esta técnica, apesar de simples, tem uma considerável morbilidade e mortalidade.

Introduction

The classification of interstitial lung disease (ILD) includes a broad and heterogeneous group of pathologies under a common clinical–radiological context.[1,2] Thoracic surgery plays an important role in this entity.[3] Surgical lung biopsy performed with minithoracothomy or video-assisted thoracoscopic surgery (VATS) is indicated in all cases where a specific diagnosis of ILD has not been reached after less invasive examinations, but it is not a technique without serious complications.[4,5]

It is well known that VATS means a shorter operating time, less incidence of postoperative complications and reduced hospital stay in regard to thoracotomy.[6] Whether it should be performed must be assessed in each individual case and will depend on the patient's clinical status.

In 2000, the ATS (American Thoracic Society) and the ERS (European Respiratory Society) published the first international consensus as regards the diagnosis and treatment of Idiopathic Pulmonary Fibrosis (IPF).[7] Two years later, the classification of ILD was modified following a new consensus developed by the two societies.[8] With this double consensus, the clinical and radiological criteria for the diagnosis of IPF were established without pathological confirmation. There are 4 major criteria and 4 minor criteria. Diagnosis of IPF is achieved in the presence of the 4 major criteria and at least 3 minor.

Here is our surgical experience in the diagnosis of ILD. We analyze the effect produced on the indications of the surgical lung biopsy in this group of entities after the publication of the consensus of ATS and ERS.

Patients and methods

We conducted a retrospective study which included 171 patients operated in our department between 1997 and 2011 to obtain a lung biopsy in the ILD diagnosis process. These patients were classified in two groups: those operated between 1997 and 2002 (group 1) and those operated between 2003 and 2011 (group 2).

To divide our series we chose year 2003 as the turning point, this was one year after the publication of the last consensus of the ATS and ERS on ILD.[7,8] We think that this is long enough to asses the influence of the two consensus on the indications of surgical lung biopsy.

We performed a right or left VATS by means 2 or 3 ports of 12 mm. When it was impossible to get to a collapsed lung or when the patient did not tolerate clamping, an anterior thoracotomy was performed. Two or three specimens were obtained with endostaplers. The assessed variables in this study were: preoperative presumptive diagnosis, respiratory status, postoperative histological diagnosis, approach, mean postoperative hospital stay, postoperative morbidity, intraoperative and postoperative mortality and causes.

Statistical analysis was performed using Statistical Package for Social Sciences version 9.0 for Windows (SPSS, Chicago IL, USA). Age was expressed as mean and standard deviation (SD). All other categorical variables were summarized as counts and percentages. Results were considered to be significant if p was less than 0.05. We used the Chi-squared test and Fisher's exact test for qualitative variables. For quantitative variables we used the Mann–Whitney U test.