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ORIGINAL ARTICLE

Safety of reducing the recovery time after percutaneous and laparoscopic liver biopsy☆

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KEYWORDS
Laparoscopy;
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Abstract
Background: Liver biopsy is the main diagnostic tool for the study of the liver, and as such, its inherent complications have been minimised as much as possible over the years, through the modification of several factors regarding its procedure, including post-biopsy recovery time. The aim of this study was to evaluate the safety in the reduction of post-liver biopsy recovery time.
Material and methods: A non-blinded, randomised clinical trial was conducted in the ''Hermanos Ameijeiras'' Hospital from November 2011 to October 2012, on 128 patients in order to assess safety when reducing post-biopsy recovery times. The patients were randomised into 2 groups. Group A was allowed a 6-h recovery time, while Group B was allowed a 2-h recovery time after liver biopsy. Complications were fully recorded. The Chi squared test of homogeneity and Student *t* test was used as appropriate, in the statistical analysis, a significance level of 0.05 was set.
Results: The main biopsy indication was elevated plasma transaminases. Pain in the puncture site was the most recurrent complication (67.2%), and the most serious complication was subcapsular liver haematoma in two cases (1.6%). There were no differences regarding the liver biopsy technique that could have caused complications in any group.
Conclusions: There were no significant differences between 2 h and 6 h post-liver biopsy recovery time in terms of complications, so it is considered that after 2 h the patient is incorporated more quickly into their activities, and the institution spends less material and human resources.

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PALABRAS CLAVE
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Seguridad de la reducción del tiempo de reposo posbiopsia hepática percutánea y por vía laparoscópica

Resumen
Antecedentes: La biopsia hepática es una herramienta diagnóstica para el estudio del hígado, por lo que en su evolución se han tratado de minimizar las complicaciones mediante la modificación de varios factores en relación con su realización, incluido el tiempo de reposo posbiopsia. El objetivo de esta investigación fue evaluar la seguridad de la reducción del tiempo de reposo posbiopsia hepática.
Material y métodos: Se realizó un ensayo clínico, aleatorizado, sin cegamiento, en el Hospital Clínico Quirúrgico «Hermanos Ameijeiras», en el período comprendido entre noviembre de 2011 y octubre de 2012. Se eligieron 128 pacientes que fueron asignados aleatoriamente a 2 grupos: grupo A con reposo de 6 h y grupo B con 2 h de reposo posbiopsia hepática. Se registraron las complicaciones. En el análisis estadístico se utilizó la prueba de chi cuadrado de homogeneidad y la t de Student según correspondiera; se fijó un nivel de valour estadístico significativo de 0.05.
Resultados: El dolor en el sitio de punción resultó la complicación más frecuente (67.2%) y la más grave fue el haematoma hepático subcapsular con 2 casos (1.6%), sin diferencias con la técnica empleada en la biopsia para la aparición de complicaciones en ambos grupos.
Conclusiones: No existieron diferencias significativas entre el tiempo de reposo posbiopsia hepática de 2 h y el de 6 en cuanto a complicaciones, por lo que se considera que con el de 2 h el paciente se incorpora más rápidamente a sus actividades y la institución dedica menos recursos materiales y humanos.

Background

Anatomopathological study of the liver has formed the basis of hepatology, and liver biopsy its principal tool, because it enables in vivo exploration and can be repeated sequentially.[1] Percutaneous liver biopsy is a procedure which is used worldwide, both because of its safety and because it is highly useful in evaluating and managing patients with liver disease. Despite the fact that liver biopsy was used for the first time in Germany by Ehrlich in 1883, it was only after 1958 when Menghini,[2] with his so-called ''one-second biopsy'' technique, managed to ensure the widespread use of this procedure. Liver biopsy started to be used increasingly from 1970 onwards due to the development and evolution of cytopathological techniques, due to the technical advances in imaging studies enabling effective and minimally invasive access to perform the procedure, and due to the advances in puncture needle technology; all of which have made this procedure really safe.[3]

At present, it is considered that liver biopsy is indicated in order to: (*a*) determine the cause of alterations in liver function tests, of no precise cause; (*b*) evaluate alcoholic liver disease and non-alcoholic liver disease; (*c*) investigate fever of unknown origin; (*d*) establish a diagnosis of multisystemic granulomatous and infiltrating disease; (*e*) confirm the aetiology of intrahepatic cholestasic disease; (*f*) support a diagnosis and to stage primary and secondary cancers in the liver, which also enables us to perform the relevant immunohistochemical study; (*g*) assess the extent of drug-induced liver damage; (*h*) achieve a diagnosis for hidden causes of hepatomegaly, jaundice and hereditary metabolic diseases of the liver; (*i*) establish a diagnosis in relation to the degree of activity and staging of chronic hepatitis and response to treatment; (*j*) follow-up and evaluate complications in transplanted patients; and (*k*) determine the cause of acute liver failure.[4–11]

As with any medical procedure which carries a risk, there are contraindications. These contraindications can be divided into absolute (failure to cooperate on the part of the patient, severe coagulopathy, infection of the liver bed and marked extrahepatic biliary obstruction) and relative (ascites, morbid obesity, vascular lesions, amyloidosis, hydatid disease).[12–14] The available techniques are ultrasound-guided blind percutaneous biopsy, transjugular biopsy and the laparoscopic approach.[7–15]

Minor complications can occur in liver biopsy (30%), such as localised and temporary discomfort at the site of the biopsy, pain that requires analgesia and low blood pressure due to a vasovagal response. Major complications can also arise (0.3%), including intraperitoneal haemorrhage, intrahepatic or subcapsular haematoma and biliary peritonitis, which can even be fatal (0.03%).[5–16] Different studies have shown that 61% of complications occur in the first 2 h after the biopsy and 96% within the first 24 h.[16–21]

Care after a liver biopsy has varied considerably over the years, especially with regard to rest time. Hospitalisation for the 24 h following the procedure was indicated more than 20 years ago, during which time the patient was required to lie in the right lateral position or prone for 6 h and then lie on either side for the remainder of the time.[22] This rest time was later reduced to 6 h in our centre – from the start of our department in 1983 – and as either an outpatient or