

intelligent Liver Function Testing (iLFT): an algorithm-based pathway to increase diagnosis of liver disease

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Introduction

Mortality from chronic liver disease (CLD) is rising. This is despite 'early warning' from commonly requested liver function tests (LFTs) which are abnormal in around 20% of cases, providing a clear opportunity for earlier diagnosis and intervention. Intelligent liver function testing (iLFT) is a revolutionary system which aims to increase early diagnosis of CLD. The referring clinician provides information on alcohol intake and co-morbidities, allowing an automated algorithm to reflex relevant tests without further venepuncture when initial LFTs are abnormal. Recommended outcomes are then provided: secondary care referral; primary care follow-up; or further investigations and referral criteria. This replaces the current, protracted system in which tests are often repeated over many years before diagnosing irreversible liver cirrhosis. iLFT is cost-effective and provides a window of opportunity for lifestyle modification and treatment.

Aims

To improve healthcare by identifying an appropriate care pathway for individual patients, utilise the existing potential of equipment and working practices, and improve service access to Hepatology, ensuring appropriate patients are seen by specialists.

Methods

A retrospective analysis was performed of iLFT requests and results in the first year, and a user questionnaire was analysed.

Results

2362 iLFT requests were received over 12 months, identifying 509 patients with advanced CLD requiring secondary care review, and 1504 patients with early CLD in whom lifestyle modifications could prevent disease progression. The proportion of liver testing made up by iLFT increased month-on-month; iLFT now accounts for 3% of monthly LFTs. 98 of 100 local General Practitioners surveyed would recommend iLFT to colleagues.

Conclusions

iLFT is a successful system which utilises currently available resources to increase the diagnosis of CLD and provide appropriate referral advice. This creates a means to manage the growing healthcare burden from CLD and allows access to specialist care for appropriate patients.

Keywords

Liver, algorithm, cirrhosis, fibrosis, primary care, diagnosis