Changing trend in liver transplantation indications in Saudi Arabia: from hepatitis C virus to nonalcoholic fatty liver disease

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Background: The indications for liver transplantation (LT) in Saudi Arabia have changed in recent years. We analyzed the trends in the frequency of indications for LT among adult Saudi patients in the last 19 years while determining the association between etiologic-specific trends and essential clinicodemographic characteristics.

Methods: This retrospective study reviewed the clinical and surgical data of adult patients who underwent LT for various indications at the King Faisal Specialist Hospital and Research Centre, Riyadh, between 2001 and 2019. The proportion of LT indications was stratified according to the LT year and hepatocellular carcinoma status, and changing trends in the indications were analyzed.

Results: A total of 1,009 adult patients underwent LT, with a median age of 55 years (range, 45–62 years), median body mass index of 26.1 (range, 22.9–30.5) and male predominance of 62.8%. During 2001–2010, the main indications for LT were hepatitis C virus (HCV, 41.9%) and hepatitis B virus (21.1%). During 2011–2019, nonalcoholic steatohepatitis (NASH, 29.7%) overtook HCV (23.7%) as the leading indication. This change in trend was significant in correlation analyses (incidence rate ratio: NASH, 1.09 [1.06–1.13]; HCV, 0.93 [0.91–0.95]). Joinpoint regression analysis showed significant increases from 2006 to 2012 for NASH (+32.1%) and decreases for HCV from 2004 to 2007 (–19.6%) and 2010 to 2019 (–12.1%). Comparison of LT etiologies before (pre-2014) and after (2014–2019) the availability of directly-acting antivirals and by stratification based on hepatocellular carcinoma status showed similar patterns.

Conclusions: NASH is emerging as the leading indication for LT in Saudi Arabia in recent years. The analysis of this changing trend is crucial towards reducing the burden of the disease and managing associated complications.

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