

NASH 101

Incidence of obesity has more than doubled world-wide since 1980 (source WHO) and more than two billion adults are currently overweight. As a result, non-alcoholic steatohepatitis (NASH), a severe form of non-alcoholic fatty liver disease (NAFLD) where the liver becomes inflamed due to the accumulation of fat, is a major threat to global health systems. It is estimated that 25-30% of obese patients and 25-30% of type 2 diabetes patients develop NASH⁽¹⁾.

In a similar manner to diabetes - which has become a worldwide epidemic - NASH is expected to affect 30-40 million patients in the U.S. by 2030.

Due to the invasive nature of a liver biopsy required to properly diagnose the disease, NASH has been overlooked for too long and remains a silent disease that can progress for decades without being noticed. This also creates a serious challenge in developing drug therapies as the disease is often well advanced before diagnosis.

If left untreated, NASH can lead to serious complications such as cirrhosis, liver failure and ultimately death. It is now the second-leading cause of liver transplants and will soon become the leading cause in the U.S. Although diet measures and increased physical activity are key components of NASH risk reduction, they have proven difficult to implement and there are still no approved drug therapies.

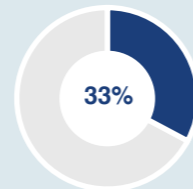
(1) The NASH education program

(2) Younossi et al., Journal of Hepatology, 2016

- \$292 bn -

In the U.S., the current economic burden of NAFLD is estimated at \$292 billion per year, a tremendous and growing burden⁽²⁾

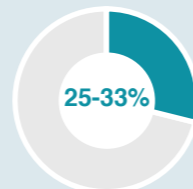
NAFLD



1/3 of US citizens has NAFLD, the hepatic manifestation associated with type-2 diabetes and obesity



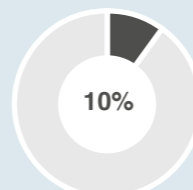
NASH



1/4 - 1/3 of NAFLD patients develop NASH, the most severe form of NAFLD characterized by inflammation and hepatocyte degeneration



CIRRHOSIS



1/10 of NASH patients will develop cirrhosis, the extensive fibrotic scarring that inhibits liver function

“Millions of people are living with a ‘silent’ disease they’ve likely never heard of”

Business insider

“A Big, Fatty Opportunity for Big Pharma”

The Wallstreet Journal

“Nonalcoholic Steatohepatitis (NASH): An Overlooked Disease”

Int. J. Clin. Pharmacol. Pharmacother.

“NASH – a silent killer: 150 world experts sign a global call to action to promote awareness of deadly liver disease”

The Nash Education Program

“NASH will become the largest pharmaceutical market of the coming decade”

KBC Securities

“Non-alcoholic fatty liver disease: a pandemic disease with multisystem burden”

Hepatobiliary Surg. Nutr.

“The \$35 billion race to cure a silent killer that affects 30 million Americans”

CNBC

“Prepare for ‘the coming tsunami’ of NAFLD”

The Hospitalist

“Why fatty liver disease could be the next public health crisis”

The Telegraph

“An estimated 80 to 100 million Americans have non-alcoholic fatty liver disease [...] seven million of those are adolescents and teenager”

The New York Times

“NASH is on a trajectory to become the most common indication for liver transplantation in the United States”

Gastroenterology