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Early View

Correspondence

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Cancer risk in severe alpha-1-antitrypsin deficiency - the importance of the early identification

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We are thankful for the shown interest and important input from doctors Fromme and Strnad.¹ That the individuals suffering from severe alpha-1-antitrypsin deficiency (AATD) have an increased risk of developing liver diseases including hepatic cancer is previously known.²⁻³ Our main aim in the recently published $article^4$ was, in addition to investigate the risk for hepatic cancer, to evaluate the risk for developing other types of cancers (non-hepatic cancers). We are grateful for the up-to-date summary on the knowledge of hepatocellular carcinoma provided by Fromme and Strnad. We strongly agree on the need for a regular surveillance in individuals with severe AATD regarding development of hepatocellular cancer. In Sweden, the individuals with severe AATD are regularly (every two years) followed-up with liver enzymes, but not with elastography or ultrasound of the liver.⁵ Our research group has recently recommended this surveillance to the Swedish physicians in our newly updated national guidelines regarding the follow-up of adult Swedish AATD patients. The results from our previously published article on the liver diseases in the Swedish individuals with severe AATD underlie this recommendation.⁶ Existing guidelines suggest regular clinical follow-up in individuals with severe AATD with simple liver function tests and liver ultrasound examination, and vaccination against hepatitis in those with hepatitis coinfection.⁷ In AATD individuals with cirrhosis, the guidelines suggest screening for primary liver cancer by computer tomography scan, and that these individuals should be advised to abstain from alcohol intake.⁷

We have also shown in a newly published article that screening for AATD at an early age may improve the prognosis of individuals identified to have AATD.⁸ Considering the fact that our findings now also show that the individuals with severe AATD may have an increased risk of developing cancer - and not only hepatic cancer - we again would like to highlight the importance of the early identification, and adequate and regular follow-up of individuals with AATD.

References

- 1. Fromme M, Strnad P. Liver cancer in severe alpha-1 antitrypsin deficiency: Who is at risk? ERJ Correspondence 2022.
- Eriksson S, Carlson J, Velez R. Risk of cirrhosis and primary liver cancer in alpha 1antitrypsin deficiency. N Engl J Med 1986:314(12): 736-739.
- Sveger T. Liver disease in alpha1-antitrypsin deficiency detected by screening of 200,000 infants. N Engl J Med. 1976;294(24):1316-21.
- 4. Hiller AM, Ekström M, Piitulainen E, Lindberg A, Rönmark E, Tanash H. Cancer risk in severe alpha-1-antitrypsin deficiency. Eur Respir J. 2022
- Piitulainen E and Tanash HA. The clinical profile of subjects included in the Swedish National Register on individuals with severe alpha 1-antitrypsin deficiency. COPD. 2015; 1: 36 – 41.
- 6. Tanash HA, and Piitulainen E. Liver disease in adults with severe alpha-1-antitrypsin deficiency. J Gastroenterol. 2019; 54(6): 541-548.
- ATS/ERS. American Thoracic Society/European Respiratory Society statement: Standards for the diagnosis and management of individuals with alpha-1 antitrypsin deficiency. Am J Respir Crit Care Med. 2003; 168 (7): 818 – 900.
- Hiller AM, Piitulainen E, Tanash H. The Clinical Course of Severe Alpha-1-Antitrypsin Deficiency in Patients Identified by Screening. Int J Chron Obstruct Pulmon Dis. 2022;17:43-52.