

## LETTERS—CONCISE RESEARCH REPORTS

# Abnormal Liver Enzymes

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One study by Bian et al. examined the follow-up patterns of abnormal liver enzymes in primary care.<sup>1</sup> The authors reported that no association between race and follow-up patterns after an initial abnormal liver test, but approximately 50.7 to 56.5% of people with abnormal liver enzymes did not perform a repeating test.<sup>1</sup> In addition, Schreiner et al. reported that 11.7% of people with abnormal liver enzymes did not perform a repeating test during the study period.<sup>2</sup> Malakouti et al. reviewed that abnormal liver enzymes might only be a normal physiological variation in some people, but it might reflect potential pathological changes in other cases and need further evaluation and management.<sup>3</sup> The most common causes of pathologic changes are disorders of hepatocellular injury and disorders of cholestasis.<sup>3,4</sup> A review of Agganis et al. disclosed that the three most common etiologies of abnormal liver enzymes are alcoholic toxicity, medication overdose, and fatty liver disease.<sup>4</sup> Agganis et al. emphasized that even asymptomatic, any people having abnormal liver enzymes should receive further investigations including a detailed history taking and physical examination, followed by appropriate laboratory testing and other diagnostic workup.<sup>4</sup> Therefore, the potential underlying causes can be found. The American College of

Gastroenterology recommends a practice guideline regarding the evaluation of abnormal liver enzymes.<sup>5</sup> This guideline is easily understood and performed in clinical practice. Primary care clinicians serve as the first-line healthcare providers and they should keep this guideline in mind.

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### Compliance with Ethical Standards:

**Conflict of Interest:** The author declares that there is no conflict of interest.

## REFERENCES

1. **Bian J, Schreiner AD, Zhang J, Schumann SO, Rockey DC, Mauldin PD,** et al. Associations of race with follow-up patterns after initial abnormal liver tests in primary care. *J Gen Intern Med.* 2018;33(10):1618–20.
2. **Schreiner AD, Moran WP, Zhang J, Kirkland EB, Heincelman ME, Schumann III SO,** et al. Evaluation of liver test abnormalities in a patient-centered medical home: do liver test patterns matter? *J Investig Med.* 2018;66(8):1118–23.
3. **Malakouti M, Kataria A, Ali SK, Schenker S.** Elevated Liver Enzymes in Asymptomatic Patients - What Should I Do? *J Clin Transl Hepatol.* 2017;5(4):394–403.
4. **Agganis B, Lee D, Sepe T.** Liver enzymes: No trivial elevations, even if asymptomatic. *Cleve Clin J Med.* 2018;85(8):612–7.
5. **Kwo PY, Cohen SM, Lim JK.** ACG Clinical Guideline: Evaluation of Abnormal Liver Chemistries. *Am J Gastroenterol.* 2017;112(1):18–35.

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