Aminotransferase and Creatine Kinase: Promising Screening Biomarkers for Duchenne Muscular Dystrophy in Chinese Children
Liang Wang¹, Min Xu², Cheng Zhang¹

¹The First Affiliated Hospital, Sun Yat-sen University, Department of Neurology, Guangzhou, China
²Sun Yat-sen Memorial Hospital, Sun Yat-sen University, Department of Dermatology, Guangzhou, China

Introduction

- The genetic screening for Duchenne muscular dystrophy (DMD) in children is controversial, but early diagnosis is important for patients to receive appropriate treatment without delay¹, ². Some cost-effective methods are necessary for early screening of DMD³.
- This study is to investigate the reasons why Chinese DMD patients see doctors for the first time and provide some valuable information about DMD screening.

METHODS

- 193 patients with DMD diagnosed at the Neuromuscular Clinic of The First Affiliated Hospital, Sun Yat-sen University from July 2012 to March 2017 were given questionnaire surveys which consisted of basic information and reasons for visiting doctors initially. And GraphPad Prism 6.01 was used to calculate data and draw charts.

RESULTS

- We found that accidental finding of elevated levels of aminotransferases or creatine kinase (CK) accounted for 57.5% of reasons for visiting (34.25% for abnormal aminotransferases; 23.25% for abnormal CK) and the complaint of motor dysfunction for rest of the participants. As to the reasons for obtaining the detections, 56.76% of them got the abnormal results during the entrance medical examination of kindergarten and 43.24% of them obtained the examinations because of other diseases.

- Abnormal CK and aminotransferases are the main reason for initial visiting. Although CK and aminotransferases are not specific, high levels of them indicate the possibility of DMD. Besides, aminotransferases are more common to be detected in children, which makes patients tend to visit doctors in department of hepatology. Thus, doctors in department of hepatology need to notice the possibility of DMD under the circumstance.

- Considering no specific biomarker for DMD at present, high levels of CK and aminotransferases are promising candidates for DMD screening.

CONCLUSIONS

- Aminotransferase and CK offer great capacities to screen DMD in young children which is useful for early diagnosis.

REFERENCES