Prevalence and Prognosis of Familial Hypercholesterolemia (FH) with Acute Myocardial Infarction (AMI) in China: Chinese Acute Myocardial Infarction (CAMI) Registry

Authors:
NQ Wu¹, JG Yang¹, JJ Li¹, QT Dong¹, YL Guo¹, YGao¹, Y Wang¹, W Li¹, YJ Yang¹, ¹Fuwai Hospital-Chinese Academy of Medical Sciences and Peking Union Medical College - Beijing - China,

On behalf: CAMI Registry study group

Topic(s):
Acute Coronary Syndromes – Epidemiology, Prognosis, Outcome

Citation:
Background: The prevalence and prognosis of familial hypercholesterolemia (FH) with acute myocardial infarction (AMI) in China is unclear. Purpose: To investigate the prevalence and prognosis of familial hypercholesterolemia (FH) with acute myocardial infarction (AMI) in China. Methods: In China Acute Myocardial Infarction (CAMI) Registry, 13,002 patients with age 18-80 were consecutively enrolled with first-onset acute myocardial infarction who were naïve to statin before admission from January 1st, 2013 to October 31st, 2014. According to Dutch Lipid Clinical Network Criteria (DLCNC), the patients were divided to heterozygous familial hypercholesterolemia (HeFH) (definite or probable HeFH, possible HeFH) or no HeFH group. All the patients were followed up (average follow-up period, 24 months) and composite major adverse cardiovascular events (ENDPOINT) were recorded which were defined as all-cause death, non-fatal myocardial reinfarction and stroke. Cox regression was performed to analyze the difference of composite endpoint occurrence between HeFH group and no HeFH group. Results: The number of the patients in the three groups was as following, 62 in definite or probable HeFH group, 484 in possible HeFH group, 12456 in no HeFH group. The prevalence of HeFH is 4.2% (including 0.47% of definite or probable HeFH, 3.73% of possible FH). The average age of onset of first-time AMI was 54±12, 56±12, 63±12 years old (p<0.0001) in definite or probable HeFH group, possible HeFH group and no HeFH group, respectively. The percentage of Killip III or above (8.1% vs 4.3% vs 6.3%, p=0.1629), cardiac arrest (1.6% vs 0.6% vs 0.9%, p=0.6990), and TIMI 0-2 grade after primary percutaneous cardiac intervention (PCI) (0% vs 6.8% vs 4.3%, p=0.5866) was not significantly different in definite or probable HeFH group, possible HeFH group and no HeFH group, respectively. After Cox proportional analysis adjusting multiple factors, the rate of composite endpoint during follow-up period was not significantly different (definite or probable HeFH group vs no HeFH group, HR 0.853, 95%CI 0.381-1.910, p=0.699, possible HeFH group vs no HeFH group, HR 1.076, 95%CI 0.795-1.458, p=0.635). Conclusions: In CAMI Registry, the prevalence of HeFH was 4.2%, the diagnosis of HeFH was not a dependent risk factor for the rate of composite cardiovascular events.
Prevalence and Prognosis of Familial Hypercholesterolemia (FH) with Acute Myocardial Infarction (AMI) in China: CAMI Registry

Authors: NQ Wu, JG Yang, JJ Li, QT Dong, YL Guo, Y Gao, Y Wang, W Li, YJ Yang

Background: The prevalence and prognosis of familial hypercholesterolemia (FH) with acute myocardial infarction (AMI) in China is unclear. Purpose: To investigate the prevalence and prognosis of familial hypercholesterolemia (FH) with acute myocardial infarction (AMI) in China. Methods: In China Acute Myocardial Infarction (CAMI) Registry, 13,002 patients with age 18-80 were consecutively enrolled with first-onset acute myocardial infarction who were naïve to statin before admission from January 1st, 2013 to October 31st, 2014. According to Dutch Lipid Clinical Network Criteria (DLCNC), the patients were divided to heterozygous familial hypercholesterolemia (HeFH) (definite or probable HeFH, possible HeFH) or no HeFH group. All the patients were followed up (average follow-up period, 24 months) and composite major adverse cardiovascular events (ENDPOINT) were recorded which were defined as all-cause death, non-fatal myocardial reinfarction and stroke. Cox regression was performed to analyze the difference of composite endpoint occurrence between HeFH group and no HeFH group. Results: The number of the patients in the three groups was as following, 62 in definite or probable HeFH group, 484 in possible HeFH group, 12,456 in no HeFH group. The prevalence of HeFH is 4.2% (including 0.47% of definite or probable HeFH, 3.73% of possible FH). The average age of onset of first-time AMI was 54±12, 56±12, 63±12 years old (p<0.0001) in definite or probable HeFH group, possible HeFH group and no HeFH group, respectively. The percentage of Killip III or above (8.1% vs 4.3% vs 6.3%, p=0.1629), cardiac arrest (1.6% vs 0.6% vs 0.9%, p=0.6990), and TIMI 0-2 grade after primary percutaneous cardiac intervention (PCI) (0% vs 6.8% vs 4.3%, p=0.5866) was not significantly different in definite or probable HeFH group, possible HeFH group and no HeFH group, respectively. After Cox proportional analysis adjusting multiple factors, the rate of composite endpoint during follow-up period was not significantly different (definite or probable HeFH group vs no HeFH group, HR 0.853, 95%CI 0.381-1.910, p=0.699, possible HeFH group vs no HeFH group, HR 1.076, 95%CI 0.795-1.458, p=0.635). Conclusions: In CAMI Registry, the prevalence of HeFH was 4.2%, the diagnosis of HeFH was not a dependent risk factor for the rate of composite cardiovascular events.