FH Algorithm in Patients with Acute CV Event in A Bulgarian Hospital Database

Familial hypercholesterolemia, or FH, is a common genetic disorder that causes bad cholesterol levels to be very high. This often results in accelerated blocking of the arteries and premature heart disease. The good news is that early identification of FH can improve patient treatment and outcomes. The bad news: many patients don't know they have it until they experience their first acute cardiovascular event, such as a heart attack.

Now, a data-mining algorithm could help patients with FH find treatment sooner. In addition to reducing the risk of recurrent heart problems among people with FH and their family members, the approach could help reduce the burden of the disease on health care systems.

Researchers began by searching electronic medical records from five hospitals in Bulgaria for patients coded as having experienced an acute cardiovascular event. They then assessed the presence of FH using the Dutch Lipid Network Clinic criteria, which provide a score indicating the probability of FH diagnosis. DLNC scores ranging from 3 to 5 were defined as a possible FH diagnosis, scores ranging from 6 to 8 were defined as a probable FH diagnosis, and scores of 9 or above were defined as a definite diagnosis.

Due to the clinical relevance, patients with probable and definite FH diagnosis were combined into a single group.

Among 11,000 patients recording an acute cardiovascular event, the DLNC algorithm identified 731 patients with FH. Medical records showed that fewer than half of these patients were discharged on high-intensity statin therapy to lower cholesterol levels. And the vast majority had poorly controlled cholesterol during the first year after discharge.

An analysis of healthcare resource use revealed that ambulatory costs were higher for patients in the probable-or-definite FH group than for those in the non-FH group. Additionally, patients with FH who experienced recurrent cardiovascular events had higher costs due to repetitive hospitalizations.

The findings should be interpreted with some caution, as analyses were limited to information available in hospital records. But the results are still telling. Early diagnosis and treatment are crucial for patients with familial hypercholesterolemia. Implementing an automated screening algorithm while a patient is hospitalized could prove extremely valuable to physicians, helping them deliver much-needed care in a timely fashion.