

The lipid accumulation product index (LAP) and the cardiometabolic index (CMI) are useful for predicting the presence and severity of metabolic syndrome in adult patients with obesity.

S. Tamini, A. Bondesan, D. Caroli, A. Sartorio

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Background: The concomitant occurrence of obesity and metabolic syndrome (MetS) causes a significant worsening of a patient's clinical condition. Indexes that employ anthropometric measurements alone or associated with blood parameters have been investigated for their ability to identify MetS. This study aimed to evaluate the diagnostic accuracy of three of these indexes, the body adiposity index (BAI), the lipid accumulation product index (LAP), and the cardiometabolic index (CMI), in a cohort of 1912 adult subjects with obesity.

Methods and Results: MetS was found in 62.3% of the enrolled subjects, with a higher prevalence in males (72.5%) than females (60.9%). Receiver operating characteristic (ROC) analysis was used to define which index performed better. The BAI was found to be the lowest-performing index, with an ROC area of 0.50, a sensitivity of 30.31%, a specificity of 74.48%, and a likelihood ratio of 1.19. On the contrary, the LAP and the CMI showed a comparable ROC area of 0.82. The LAP had a sensitivity of 63.06%, a specificity of 86.55%, and a likelihood ratio of 4.69, while the CMI had a sensitivity of 67.59%, specificity of 81.55%, and a likelihood ratio of 3.66. The analysis was also performed in the group divided into males and females, with overlapping results.

Conclusions: The LAP and the CMI performed better than the BAI in detecting MetS both in the general population with obesity and in the male/female subgroups. In the future, it will be important to validate these useful diagnostic tools in order to employ them in clinical practices.

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