Unveiling the Significance of Body Mass Index in Diagnosis of Superior Mesenteric Artery Syndrome: A Hidden Link

Dr. Kavita Umesh Vaishnav[1], Dr. Khushee Dipak Kothari[2*], Dr. Pranay M. Patel[3], Dr. Zaryab M. Qureshi[4], Dr. Meet K. Radadia[5], Dr. Hetavi B. Patel[6]
[1]Associate Professor, [2]2nd Year Resident Doctor, [3,4] Senior Resident,[5] 3rd year Resident Doctor, [6] 1st year Resident Doctor, Department of Radiodiagnosis, Narendra Modi Medical College, Ahmedabad.

ABSTRACT
Background & Aims: The superior mesenteric artery syndrome (SMAS) is an uncommon syndrome characterized by the compression of the third part of the duodenum between the superior mesenteric artery (SMA) and abdominal aorta with resultant proximal duodenal dilatation. The radiological diagnosis of the SMAS is based on reduced angle and distance between the SMA and aorta in presence of proximal duodenal dilatation. A reduction in these is closely associated with depletion of the mesenteric fat between the vessels. Our primary aim is to establish the relationship, if any, of body mass index (BMI) with the angle and distance between the SMA and abdominal aorta in general population. **Materials and Methods:** This study was carried out in 200 patients who had undergone contrast enhanced computed tomography for various other complaints. Various parameters such as aortomesenteric distance (AMD) and aortomesenteric angle (AMA) along with the body mass indices were calculated. Pearson correlation coefficients were calculated to establish the relationship between BMI, AMD and AMA. **Results:** Pearson's correlation coefficient for BMI and AMD was 0.868, indicating strong positive correlation and 0.577 for BMI and AMA, indicating moderate positive correlation. Furthermore, AMD and AMA also showed positive correlation with Pearson's correlation coefficient of 0.568. **Conclusion:** There is significant positive correlation of BMI with AMD and AMA in general population suggesting people with low BMI are at an increased risk of developing SMAS.
Keywords: Aortomesenteric angle, Aortomesenteric Distance, Body mass index, Superior mesenteric Artery Syndrome. Computed Tomography