

## 糖尿病を有する高血圧患者における肥満・パラドクス

高血圧および耐糖能障害を有する患者においてはBMIが低いことが心血管疾患のリスクファクターである

Low BMI is a risk factor for cardiovascular disease in patients with hypertension and glucose intolerance

糖尿病を有する高血圧患者においては低BMIが心血管疾患(CVD)のリスクファクターであるとの研究結果が2013年European Society of Cardiology学会で発表された。この結果から、耐糖能障害を有する高血圧患者における肥満・パラドクスのエビデンスが提供された。研究者らは、耐糖能障害を有する高血圧患者1,105人において、バルサルタンとアムロジピンの有効性を比較した無作為化試験Nagoya Heart Studyのデータを使用した。患者はベースラインのBMI:<23 kg/m<sup>2</sup> (283人)、23~24.99 kg/m<sup>2</sup> (290人)、25.00~27.49 kg/m<sup>2</sup> (277人)、および≥27.50 kg/m<sup>2</sup> (255人)に基づき4群に分類された。層別化解析は最小のBMI群を対照に行われた。経過観察期間中央値は3.2年であった。年齢、性別および喫煙の有無で補正した結果、BMIが最小の群ではCVD発現率が最大であり(14.8%、4.6/100人-年)、BMIが最大の群ではCVD発現率が最小であった(5.1%、1.5/100人-年)。BMI最大群におけるCVDリスクはBMI最小群と比べ3分の1未満であった。このスタディの結果は、重症の肥満はCVDリスクファクターであるとの事実と異議を唱えるものであり、耐糖能障害を有する高血圧患者における肥満・パラドクスを指し示している。

### Full Text

Low BMI is a risk factor for cardiovascular disease (CVD) in hypertensive patients with diabetes, according to research presented at the ESC 2013 Congress by Dr. Takanori Nagahiro from Japan. The findings provide evidence for an obesity paradox in hypertensive patients with glucose intolerance.

Dr. Nagahiro said: "Obesity is a risk factor for CVD but several studies have reported that low body mass index (BMI, kg/m<sup>2</sup>) was associated with worse cardiovascular outcome compared to middle or higher BMI. This strange phenomenon is called the 'obesity paradox' and has been described in patients with stroke, heart failure, coronary artery disease and renal disease."

He added: "The obesity paradox was reported in diabetic patients in 2012. Adults who were normal weight at the time of incident diabetes had higher mortality than adults who were overweight or obese. However, the relationship between obesity and cardiovascular events in patients with diabetes and hypertension is unknown."

The current study assessed the relationship between BMI and cardiovascular events in patients with hypertension and glucose intolerance. The researchers used data from the Nagoya Heart Study, a randomized trial comparing the efficacies of valsartan and amlodipine among 1,105 hypertensive patients with glucose intolerance in Japan. Patients were enrolled from October 2004 to January 2009 and the median follow-up was 3.2 years. The CVD endpoint was a composite of acute myocardial infarction, stroke, admission due to heart failure, coronary revascularization, or sudden cardiac death.

Patients were classified into four groups according to their baseline BMI: <23kg/m<sup>2</sup> (n=283), 23 to 24.99kg/m<sup>2</sup> (n=290), 25.00 to 27.49kg/m<sup>2</sup> (n=277), and ≥27.50kg/m<sup>2</sup> (n=255). Stratified analyses were performed according to these groups with the lowest BMI category as reference.

The primary endpoint occurred in 42 patients (14.8%, 4.6/100 patient-years) in the lowest BMI category (the reference group), 24 patients (8.3%, 2.3/100 patient-years) in the BMI 23.00 to 24.99kg/m<sup>2</sup> group (hazard ratio [HR]=0.48), 27 patients (9.7%, 2.8/100 patient-years) in the BMI 25.00 to 27.49kg/m<sup>2</sup> group (HR=0.57), and 13 patients (5.1%, 1.5/100 patient-years) in the highest BMI category (HR=0.32).

Dr. Nagahiro said: "As BMI increased, CVD risk decreased among Japanese hypertensive patients with glucose intolerance. After adjustment for age, gender and smoking status, the lowest BMI group showed the highest CVD incidence and the highest BMI group had the lowest CVD incidence. CVD risk in the highest BMI group was less than one-third that of the lowest BMI group."

Dr. Nagahiro said: "Our study shows that there is an obesity paradox in hypertensive patients with glucose intolerance. This may be because of the severity of diabetes mellitus in the lowest BMI group. Baseline HbA1c and disease duration is similar to other groups however the percentage of insulin therapy is higher than other groups. This background indicates that the severity of diabetes mellitus is different. The two middle BMI groups had similar CVD risk, probably because mild obesity needs more time to exert an adverse effect on the cardiovascular system."

He concluded: "Hypertensive patients with glucose intolerance and a high BMI should lose weight and restore their BMI to normal range. The results of our study did not refute the fact that severe obesity is a CVD risk factor."

## Conference News

### [News 01]

STEMI患者において非責任病変への予防的PCIは有益である

### [News 02]

静脈血栓塞栓症の治療においてエドキサバンはワルファリンよりも安全である

### [News 03]

心不全において家庭テレモニタリングは役立つ

### [News 04]

機械的CPRと手動CPRの予後は同等である

### [News 05]

ターゲティングMRIにより同定された線維化はアブレーションの予後を改善する

### [News 06]

PCI前の血栓吸引は生存率を改善しない

### [News 07]

コペプチン検査により心筋梗塞を除外できる可能性がある

### [News 08]

ロサルタンのマルファン症候群における有効性は有望なようである

### [News 09]

裕福な国対貧しい国でパラドクスが認められた

### [News 10]

QRS幅の狭い患者においてCRTは有用でない

### [News 11]

心不全患者において心筋ミオシン活性化因子は収縮能を増加させる

### [News 12]

糖尿病を有する高血圧患者における肥満・パラドクス

### [News 13]

高用量スタチンは認知症を予防する