

differ (5). The empiric 4-graded scale used appears to be “patient-reported”; however, it is unclear whether the “mild, moderate, or severe physical effort” description was clinician-directed. As the major endpoint was “angina free,” this is of less importance in this particular discussion. A second consideration is the observation time course; that is, does “angina-free at 12 months” infer no pain over the entire 12 months or no pain in the month prior to the 12-month interval? The latter is often utilized, but it is unclear in the present study. Finally, has the DUTCH PEERS 4-category post-PCI angina scale been validated? The studies described previously (2-4) have utilized the Seattle Angina Questionnaire (SAQ), which has been shown to be reproducible in patients with stable angina, responsive to PCI, and validated with short-acting nitrate consumption. These characteristics need to be detailed for the DUTCH PEERS angina scale to assist with interpretation of the results. Furthermore, the SAQ was not used because it was too long; however, the short version (SAQ-7) would have been appropriate.

Thus, the future evolution of evaluating post-PCI angina requires the use of established validated measures as well as detailed documentation of the patient, angiographic, and interventional factors that may influence this important PROM. The measurement of this endpoint is fundamental and should be incorporated into all PCI studies, particularly because it is often the primary reason the patient initially sought medical attention.

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## REPLY: Post-Percutaneous Coronary Intervention Angina: A New Performance Measure?



We welcome the opportunity of responding to the letter by Dr. Tavella and colleagues and expand on the chest pain assessment in the DUTCH PEERS (Durable polymer-based sTent CHallenge of Promus ElemEnt versus ReSolute Integrity; TWENTE II) study (1). As a matter of fact, the pain score used is straightforward and leans on routine clinical practice. Patients were asked whether they still experienced chest pain (referring to the last few weeks) and to *individually grade* the level of physical activity when having pain. This approach reflects that, for many patients, it is most important to be symptom-free during ordinary activities, because this ensures an independent, self-determined life. The majority of patients provided the information through a postal questionnaire, whereas a telephone follow-up (same questions) and/or consultation of medical records was performed in much lower proportions of patients. Hence, it is fair to address these data as patient-reported.

The short version of the well-defined and validated Seattle Angina Questionnaire (SAQ), the SAQ-7, may certainly be an interesting instrument to assess angina and its consequences, but it still comprises 7 questions (2). Because the PAPA (Patient Preference Analysis of Yearly follow-up After PCI) study recently revealed that patients prefer  $\leq 6$  to 10 follow-up questions (3), and aspects other than chest pain/angina need to be addressed (e.g., adverse events, hospitalization, medication), SAQ-7 may still be borderline large for use in all-comer studies.

The chest pain score in DUTCH PEERS is very short, simple, and related to the patient's individual fitness and performance. It does not measure angina but rather evaluates patient-reported chest pain, which is—albeit not exclusively—a key symptom of angina. There was no distinction between typical and atypical chest pain because both affect the patient's performance, may trigger further cardiac assessment, and increase the costs of medical care. Because the approach used in the DUTCH PEERS study was not validated against antianginal medication, a comparison with the SAQ might seem appealing.

However, recently reported data from the ABSORB II study (ABSORB II Randomized Controlled Trial) demonstrated that the results of angina evaluation based on the SAQ can differ quite significantly from site-diagnosed angina/chest pain. Nonetheless, the investigators considered the latter a clinically valuable parameter and reported it in detail (4).

Although we recognize certain limitations of our straightforward approach of chest pain assessment, we feel that the data obtained are of interest and presume that they are clinically meaningful.

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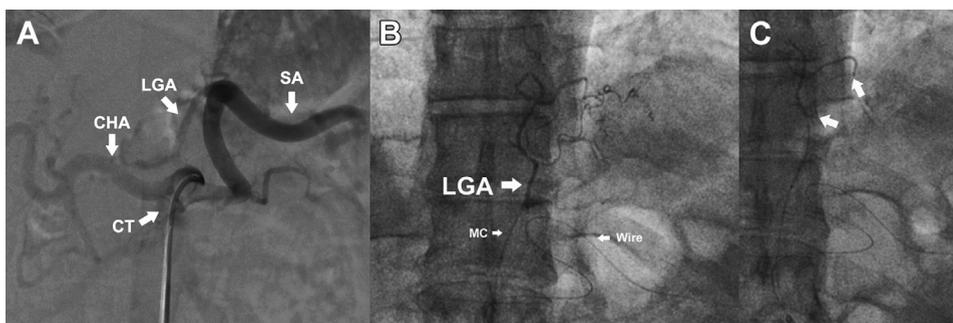
## Endovascular Bariatrics



### First in Humans Study of Gastric Artery Embolization for Weight Loss

Obesity is associated with adverse cardiovascular and metabolic conditions. Dietary, medical, or surgical weight loss strategies are frequently unsuccessful and accompanied by risks. Although many appetite-limiting hormones have been discovered, only 1 hormone, ghrelin, has been shown to be orexigenic (appetite stimulating) (1). Ghrelin-producing cells are located in the fundus of the stomach; through ghrelin secretion, these cells stimulate appetite, resulting in weight gain (1). Several animal studies have shown that embolization of arteries supplying the gastric fundus reduces serum ghrelin levels and food intake (2-4). In addition, significant weight loss has been demonstrated in humans after left gastric artery embolization to treat active upper gastrointestinal bleeding (5). The aim of this prospective, single-arm

**FIGURE 1** Angiographic Images Before and After Embolization of Left Gastric Artery



(A) Celiac angiography. The catheter tip is engaged in the celiac trunk. Contrast injection outlines the celiac trunk (CT), common hepatic artery (CHA), splenic artery (SA), and left gastric artery (LGA). (B) Selective left gastric artery angiography. A microcatheter (MC) has been positioned into the left gastric artery and a wire advanced into the splenic artery for support. (C) Selective angiography of the left gastric artery. Cessation of flow in the branches of the left gastric artery is demonstrated (arrows).