Background and Purpose The ThrombX Retriever is a novel mechanical thrombectomy device that adjusts the distance between two mesh segments to axially hold thrombus. A post-market study assessed safety and performance in acute ischemic stroke patients with large artery occlusion.

Methods A single-arm prospective multi-center study enrolled patients at 5 European Centers. Patients had a symptomatic large-artery occlusion of the intracranial Internal Carotid or the Middle Cerebral Artery, M1 segment. The primary outcome measure was the modified treatment in cerebral infarction (mTICI) score, on the immediate post-procedure angiogram after up to three device passes. Key secondary outcome measures were the mTICI score after a single pass and functional independence, defined as an mRS score ≤ 2 at 90 days.

Results Thirty patients (16 Females, mean age 72 years), with NIHSS 4–25 (mean 15.5) were treated. Twenty-nine (97%) achieved mTICI 2b-3 within 3 passes, and 24 (80%) were with the first pass (FP). FP mTICI 2c-3 reperfusion was achieved in 19 (63%) cases. Seventeen of 24 (71%) patients treated with a balloon guide and the ThrombX Retriever had a FP mTICI 2c-3 reperfusion. After all interventions, mTICI 2b-3 was seen in 30 (100%) patients. Twenty-one of the 29 (73%) patients with 90-day follow-up were functionally independent (mRS≤2). No device-related serious adverse events were observed.

Conclusion This preliminary study suggests the ThrombX Retriever is safe and has a high rate of substantial reperfusion. A larger prospective trial to assess the device effectiveness is planned.

Disclosures D. Behme: 2; C; Thromb X Medical, Phenox, Penumbra, Balt, Vesisalo, Acandis. M. Wiesmann: 1; C; Stryker Neurovascular. 2; C; Stryker Neurovascular. 6; C; AB Medica, Acandis, Cerenovus, Kaneka Pharmaceuticals, Medtronic, Mentece AB, Phenox, Philips Healthcare, Stryker Neurovascular. O. Nikoubashman: 1; C; Stryker Neurovascular. 6; C; Phenox, Stryker Neurovascular. H. Ridwan: 2; C; ThrombX Medical. D. Hassan: None. T. Liebig: None. C. Trumm: None. M. Holtmannspötter: 2; C; Microvention, Phenox, Medtronic. 6; C; Cerenovus, Rapid Medical, Microvention, Stryker. M. Marks: 4; C; ThrombX Medical. 5; C; ThrombX Medical. I. Szikora: 1; C; Stryker Neurovascular, Medtronic, Cerenovus. 2; C; Stryker Neurovascular, Medtronic, Cerenovus.