Introduction:
The aim of this study is to discuss the short-term results of a hybrid approach combining minimally invasive endoscopic CABG (EndoCABG) with a percutaneous coronary intervention (PCI). To bypass the disadvantages and potential complications of conventional CABG via median sternotomy, we developed the EndoCABG technique to treat patients with single- and multi-vessel coronary artery disease (CAD). This procedure is performed with three 5-mm thoracic ports and a mini-thoracotomy utility port (3 cm) through the intercostal space. This technique can be combined with PCI: the hybrid approach. The sequence of the 2 procedures (EndoCABG followed by PCI or vice versa) may result in different outcomes.

Methods:
From 02/2016 to 12/2017 data from 81 consecutive patients scheduled for a hybrid technique at Jessa, Belgium, were prospectively entered into a customized database. This database was retrospectively reviewed. Subgroup analysis was performed to compare outcomes of patients who first received EndoCABG with patients who first received PCI. A p-value < 0.05 is considered significant, a p-value < 0.1 is considered as a trend toward significance.

Results:
Four patients underwent revision surgery and 2 patients died within the first 30 days. In 79 patients the left anterior descendens artery (LAD) was grafted with the left internal mammary artery (LIMA), the right coronary artery (RCA) was the most stented vessel using PCI. Patients first treated with PCI received more units of fresh frozen plasma after EndoCABG compared to those who were first treated with EndoCABG (p=0.03). There was also a trend toward significant more transfusion of packed cells in this small subgroup (p=0.07).

Conclusion:
The hybrid approach is a feasible technique as a treatment option for patients with multi-vessel CAD. If CABG follows the PCI, patients are more likely to receive transfusion. A possible explanation could be the need for dual antiplatelet therapy prior to surgery in this group, but this needs further investigation.