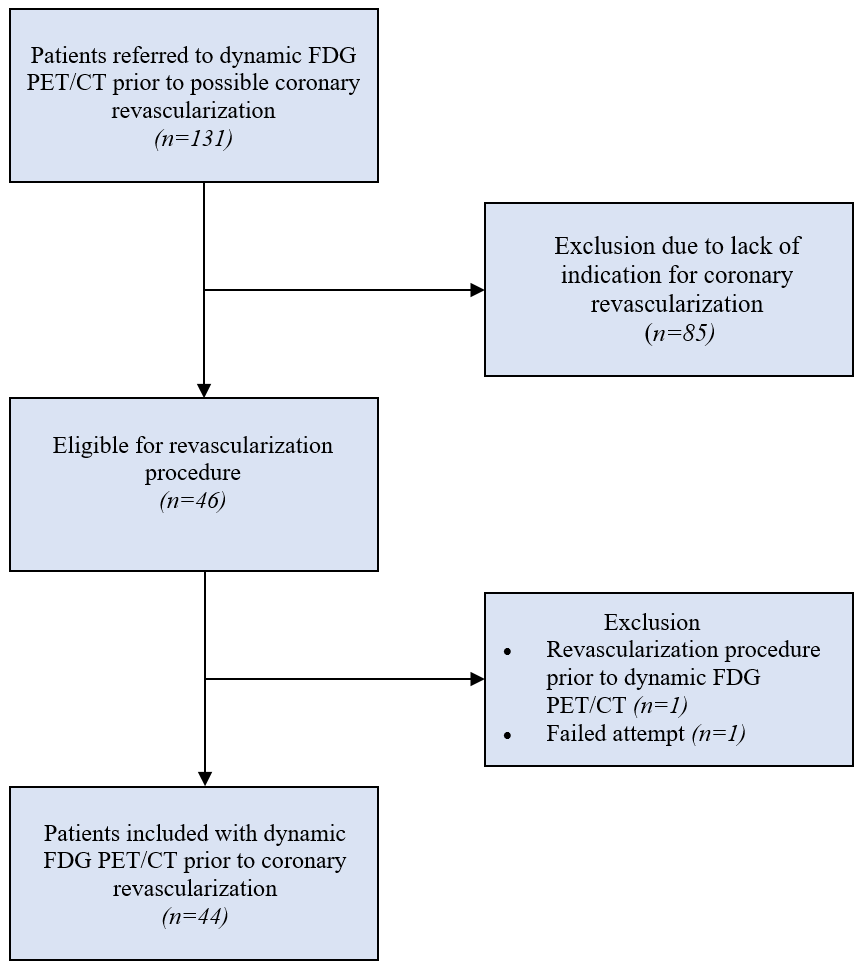
# Abbreviations

|  |  |
| --- | --- |
| **Abbreviations** | **Meaning** |
| AUC | area under the curve |
| CABG | coronary artery bypass grafting |
| CTO | chronic total occlusion |
| EF | ejection fraction |
| FDG PET/CT | 18F-fluorodeoxyglucose positron emission tomography/computed tomography |
| HEC | hyperinsulinemic euglycemic clamp |
| IQR | inter-quartile range (25th to 75th percentile) |
| LAD | left anterior descendent artery |
| LCx | left circumflex artery |
| MGU | myocardial glucose uptake |
| PCI | percutaneous coronary intervention |
| RCA | right coronary artery |
| ROC | receiver operator curve |
| SD | standard deviation |

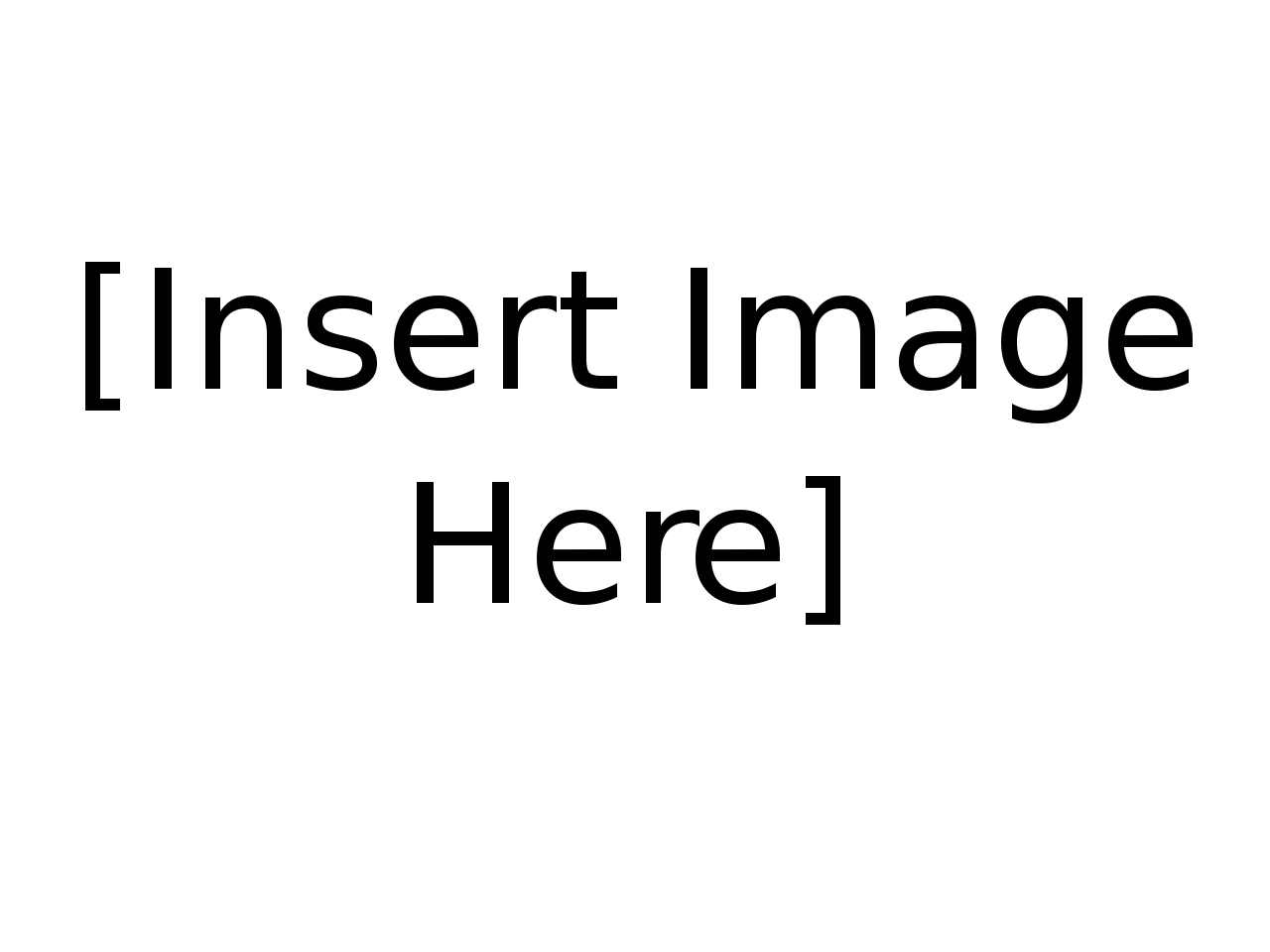
# Figures

## Figure 1 - Patient flow diagram



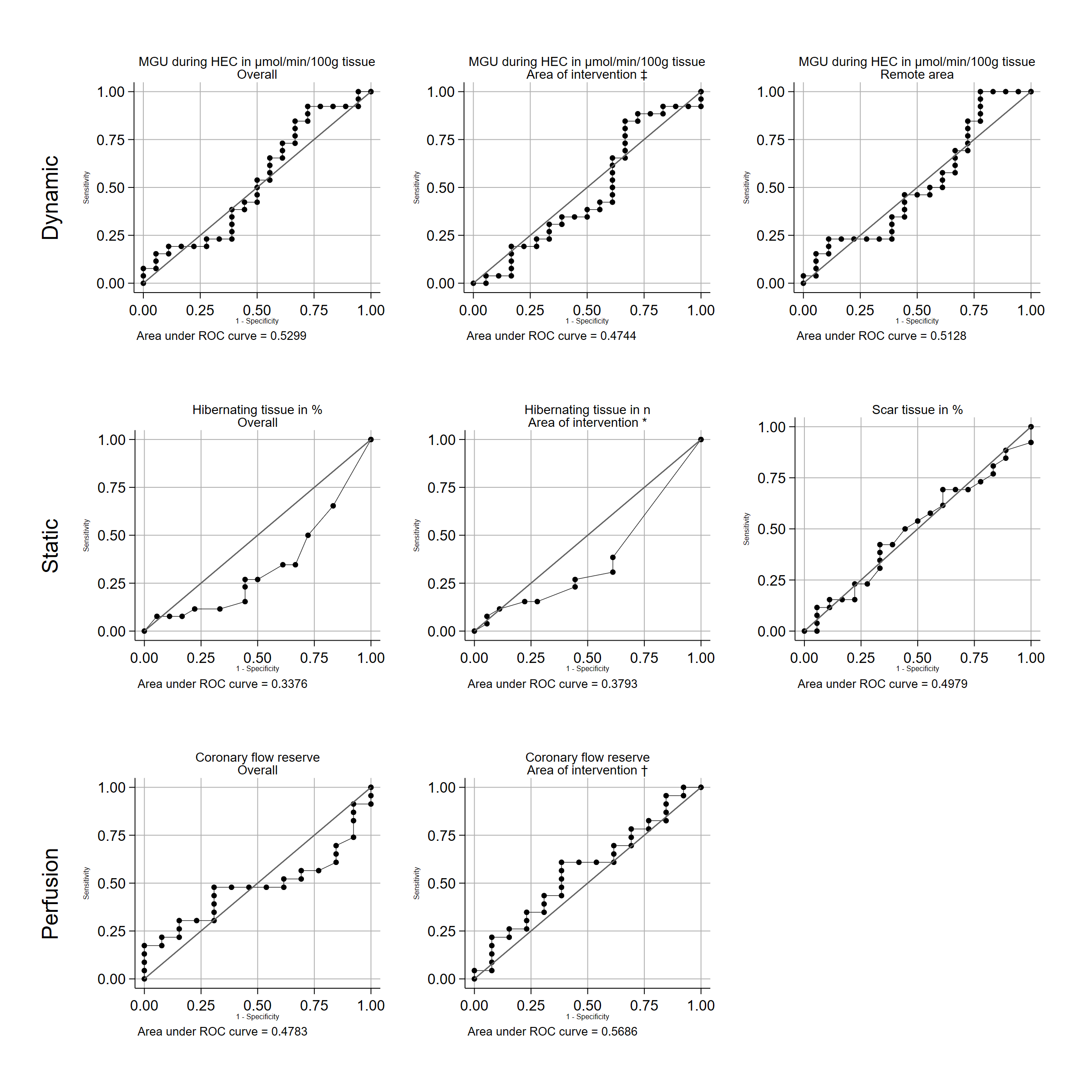
**Abbreviations:** FDG PET/CT, 18F-fluorodeoxyglucose positron emission tomography/computed tomography.   
**Notes:** Flow diagram showing the inclusion of patients from the 131 who were referred to the Department of Nuclear Medicine & PET-Centre to undergo cardiac viability PET/CT.

## Figure 2 - Example of a dynamic cardiac PET scan



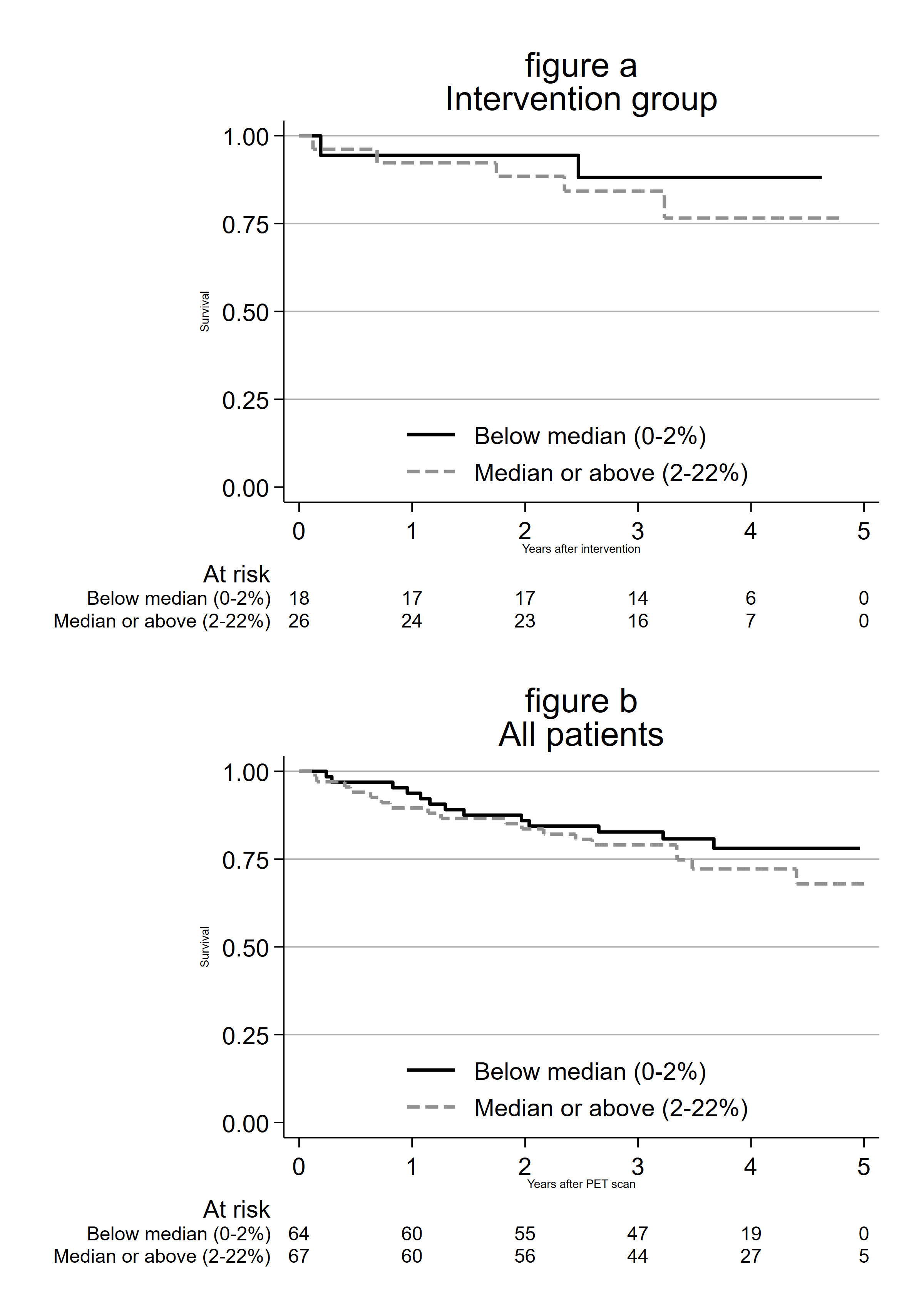
**Notes:** Insert footnotes.

## Figure 3 - ROC curves of pre-intervention dynamic (MGU), static (hibernation), and perfusion PET measures for predicting LVEF-improvement of 5% or above



**Abbreviations:** EF, ejection fraction; HEC, hyperinsulinemic euglycemic clamp; MGU, myocardial glucose uptake; ROC, receiver operator curve.   
**Notes:** \* † ‡ See table 1 footnotes.

## Figure 4 - Hibernating tissue and survival



**Notes:** Kaplan-Meier survival curves by hibernation % (above versus below median) for the included patients who underwent intervention (a) and for all patients (b). Follow-up started at date of intervention (a) and date of PET scan (b), respectively. Number of patients at risk are shown below each figure.

# Tables

## Table 1 - Baseline patient characteristics

|  |  |
| --- | --- |
|  | **Total** |
| Patients, N | 44 |
| Patient characteristics |  |
| Age in years, mean (SD) | 64.9 (8.9) |
| Sex, n (%) |  |
| - Male | 39 (88.6) |
| - Female | 5 (11.4) |
| Diabetes status, n (%) |  |
| - Diabetes | 13 (29.5) |
| - No diabetes | 31 (70.5) |
| BMI in kg/m2, median (range) | 26.7 (19.4-51.5) |
| P-glucose during HEC in mM, median (range) | 5.1 (3.9-7.0) |
| Glucose infusion rate during HEC in mg/kg/min, median (range) | 3.7 (1.0-7.2) |
| Cardiac status |  |
| Ejection-fraction on echocardiography in %, mean (SD) |  |
| - Before intervention | 30.8 (9.8) |
| - After intervention | 36.4 (10.9) |
| Types of intervention, n (%) |  |
| - PCI without CTO | 21 (47.7) |
| - PCI with CTO | 16 (36.4) |
| - CABG | 7 (15.9) |
| Area of intervention, n (%) |  |
| - LAD | 9 (20.5) |
| - LCx | 8 (18.2) |
| - RCA | 7 (15.9) |
| - Multiple areas | 20 (45.5) |
| PET measurements |  |
| Scar tissue in %, median (range) | 14.0 (1.0-54.0) |
| Hibernating tissue, median (range) |  |
| - Overall in % | 2.0 (0.0-21.0) |
| - Area of intervention in n hibernating segments \* | 0.0 (0.0-5.0) |
| Coronary flow reserve, median (range) |  |
| - Overall | 1.7 (0.9-3.5) |
| - Area of intervention † | 1.6 (0.8-3.2) |
| Myocardial glucose uptake during in µmol/min/100g tissue, median (range) |  |
| - Overall | 27.4 (9.7-48.9) |
| - Remote area | 33.8 (11.7-64.9) |
| - Area of intervention ‡ | 27.9 (8.5-44.5) |

**Abbreviations:** CABG, coronary artery bypass grafting; CTO, chronic total occlusion; HEC, hyperinsulinemic euglycemic clamp; LAD, left anterior descendent artery; LCx, left circumflex artery; PCI, percutaneous coronary intervention; RCA, right coronary artery; SD, standard deviation.   
**Notes:** Values are shown as mean (SD), n (%) or median (range). \* Number of segments in area of intervention (up to 17) with at least 10% hibernating tissue divided by the number of coronary arteries intervened upon. Example: 3 hibernating segments in LAD + 1 in RCA / 2 arteries = 2. † Average coronary flow reserve across the area(s) of intervention. ‡ Average myocardial glucose uptake across area(s) of intervention.

## Table 2 - Patient characteristics stratified by LVEF-improvement after revascularizatiion intervention

|  |  |  |  |
| --- | --- | --- | --- |
|  | **EF not improved** | **EF improved 5% or more** | **P-value** |
| Patients, N | 18 | 26 |  |
| Patient characteristics |  |  |  |
| Age in years, mean (SD) | 61.8 (7.3) | 67.1 (9.4) | 0.05 |
| Sex, n (%) |  |  |  |
| - Male | 16 (88.9) | 23 (88.5) | >0.99 |
| - Female | 2 (11.1) | 3 (11.5) |  |
| Diabetes status, n (%) |  |  |  |
| - Diabetes | 6 (33.3) | 7 (26.9) | 0.74 |
| - No diabetes | 12 (66.7) | 19 (73.1) |  |
| BMI in kg/m2, median (range) | 26.6 (21.1-51.5) | 26.7 (19.4-39.3) | >0.99 |
| P-glucose during HEC in mM, median (range) | 5.0 (4.3-7.0) | 5.2 (3.9-6.3) | 0.38 |
| Glucose infusion rate during HEC in mg/kg/min, median (range) | 3.4 (1.0-7.1) | 3.8 (2.1-7.2) | 0.21 |
| Cardiac status |  |  |  |
| Ejection-fraction on echocardiography in %, mean (SD) |  |  |  |
| - Before intervention | 31.9 (10.2) | 30.0 (9.7) | 0.52 |
| - After intervention | 31.1 (10.9) | 40.0 (9.5) | 0.006 |
| Types of intervention, n (%) |  |  |  |
| - PCI without CTO | 9 (50.0) | 12 (46.2) | >0.99 |
| - PCI with CTO | 6 (33.3) | 10 (38.5) |  |
| - CABG | 3 (16.7) | 4 (15.4) |  |
| Area of intervention, n (%) |  |  |  |
| - LAD | 4 (22.2) | 5 (19.2) | 0.21 |
| - LCx | 5 (27.8) | 3 (11.5) |  |
| - RCA | 4 (22.2) | 3 (11.5) |  |
| - Multiple areas | 5 (27.8) | 15 (57.7) |  |
| PET measurements |  |  |  |
| Scar tissue in %, median (range) | 13.5 (2.0-54.0) | 14.5 (1.0-49.0) | 0.99 |
| Hibernating tissue, median (range) |  |  |  |
| - Overall in % | 4.5 (0.0-21.0) | 1.5 (0.0-21.0) | 0.07 |
| - Area of intervention in n hibernating segments \* | 1.0 (0.0-5.0) | 0.0 (0.0-5.0) | 0.15 |
| Coronary flow reserve, median (range) |  |  |  |
| - Overall | 1.7 (0.9-2.5) | 1.6 (0.9-3.5) | 0.84 |
| - Area of intervention † | 1.5 (0.8-3.0) | 1.6 (0.8-3.2) | 0.52 |
| Myocardial glucose uptake during in µmol/min/100g tissue, median (range) |  |  |  |
| - Overall | 28.0 (9.7-42.3) | 27.4 (10.4-48.9) | 0.75 |
| - Remote area | 34.5 (11.7-54.6) | 32.8 (17.6-64.9) | 0.90 |
| - Area of intervention ‡ | 32.6 (10.2-44.5) | 27.4 (8.5-44.2) | 0.79 |

**Abbreviations:** CABG, coronary artery bypass grafting; CTO, chronic total occlusion; HEC, hyperinsulinemic euglycemic clamp; LAD, left anterior descendent artery; LCx, left circumflex artery; PCI, percutaneous coronary intervention; RCA, right coronary artery; SD, standard deviation.   
**Notes:** P-values for differences were calculated using Fisher's exact test (sex, diabetes, type of intervention, and area of intervention), Student's t-test (age and ejection-fraction), and Wilcoxon rank-sum test (remaining variables). \* † ‡ See table 1 footnotes.