

High rate of achievement of target values in LDL-Cholesterol reduction through cardiac rehabilitation in patients with Acute Coronary Syndrome

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BACKGROUND

ESC-Guidelines on acute coronary syndromes (ACS), cardiovascular disease prevention and management of dyslipidaemias recommend a LDL-Cholesterol (LDL-C) < 70 mg/dl in patients (pts) after myocardial infarction (STEMI and NSTEMI). In former studies in pts without cardiac rehabilitation (CR), a LDL-C < 70 mg/dl was reached in 10 to 30 % of pts, even in high risk populations.

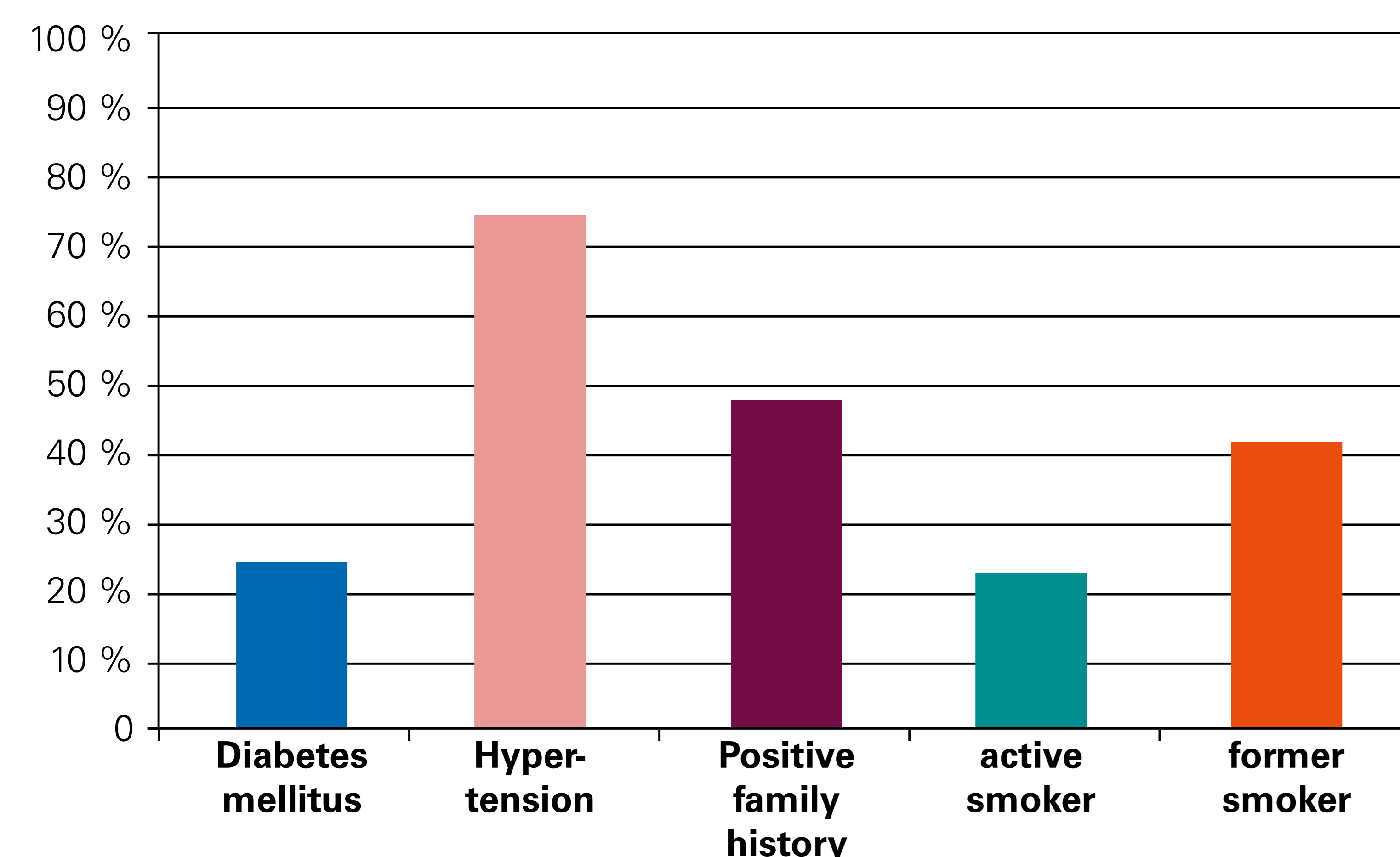
PURPOSE

The aim of the PATIENT-CARE registry is to document clinical and demographic data, risk factors and medication in patients with STEMI or NSTEMI admitted to CR.

METHODS

Since April 2016, 980 consecutive patients (pts) were included in 18 German rehabilitation facilities. Pts characteristics, co-morbidities, Body-Mass-Index (BMI), blood pressure (BP), lipid profile and changes in medication including daily dosage were documented at admission and discharge to evaluate the percentage of guideline adherent therapy and of LDL-C goal attainment through optimization of medication and lifestyle-changes during CR.

Fig. 1: Risk factors of the ACS patients



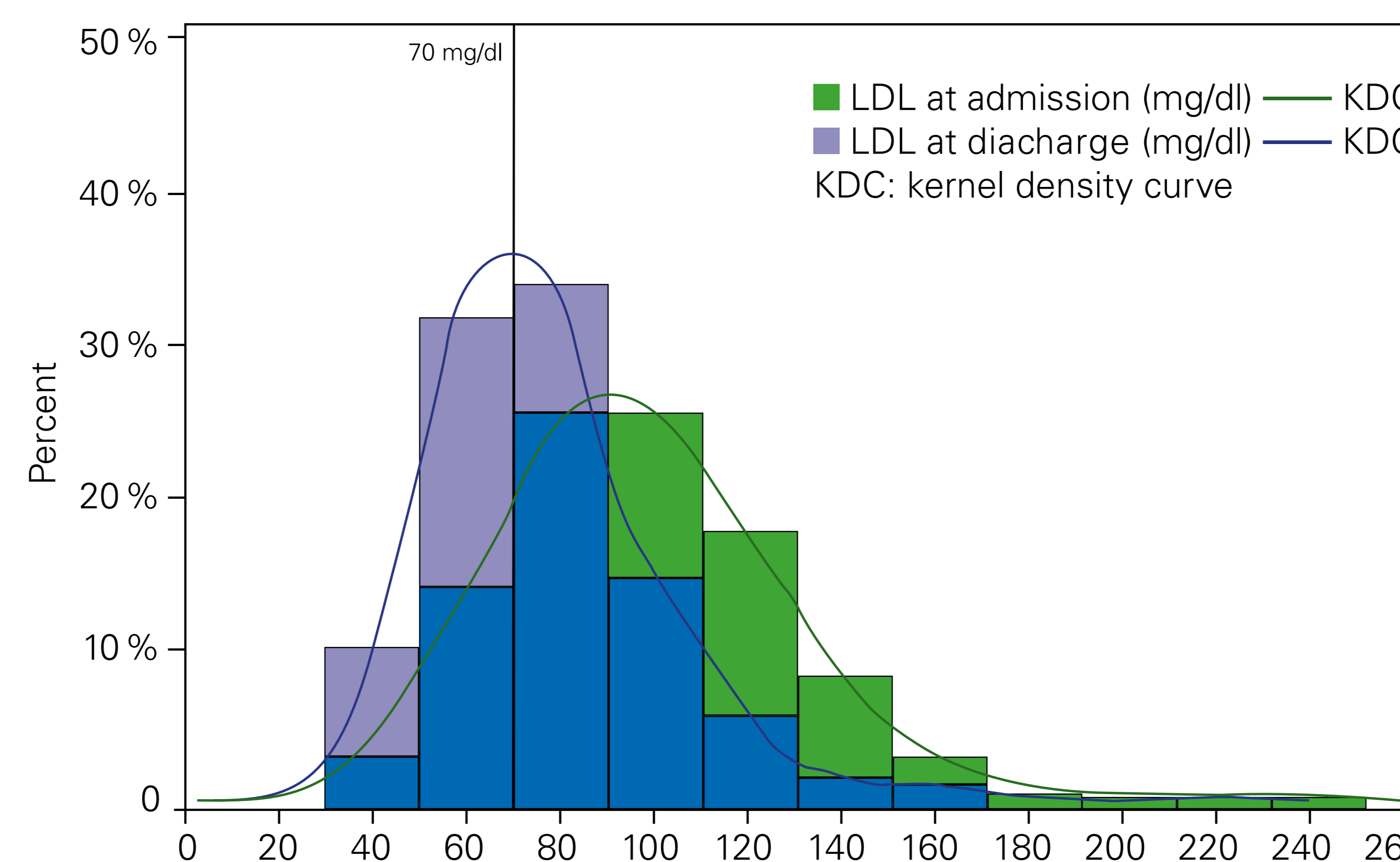
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Tab. 1: Parameters: admission vs. discharge

Parameter	Admission	Discharge	p-value
BMI	29 kg/m ²	28,6 kg/m ²	0,7398
Total cholesterol (TC)	160 mg/dl	137 mg/dl	< 0,0001
LDL-C	95 mg/dl	77 mg/dl	< 0,0001
HDL-C	44 mg/dl	44 mg/dl	0,0540
Triglycerides (TG)	146 mg/dl	123 mg/dl	< 0,0001
Blood pressure	128/77 mmHg	122/73 mmHg	< 0,0001 (both)
Plasma glucose (PG)	114 mg/dl	111 mg/dl	< 0,0001
Heart rate (bpm)	69	68	0,2327
HbA1c	6,7 %	6,7 %	0,1903
Exercise capacity (Watt)	106	118	< 0,0001
LDL-C goal <70 mg/dl	22 %	43 %	< 0,001
Atorvastatin: Percentage of pts. median daily dose	50 % 37 mg	65 % 38 mg	
Simvastatin: Percentage of pts. median daily dose	43 % 32 mg	30 % 34 mg	
Other lipid lowering therapy	3,3 %	13 %	
average distance to LDL-C goal <70 mg/dl	35 mg/dl	22 mg/dl	

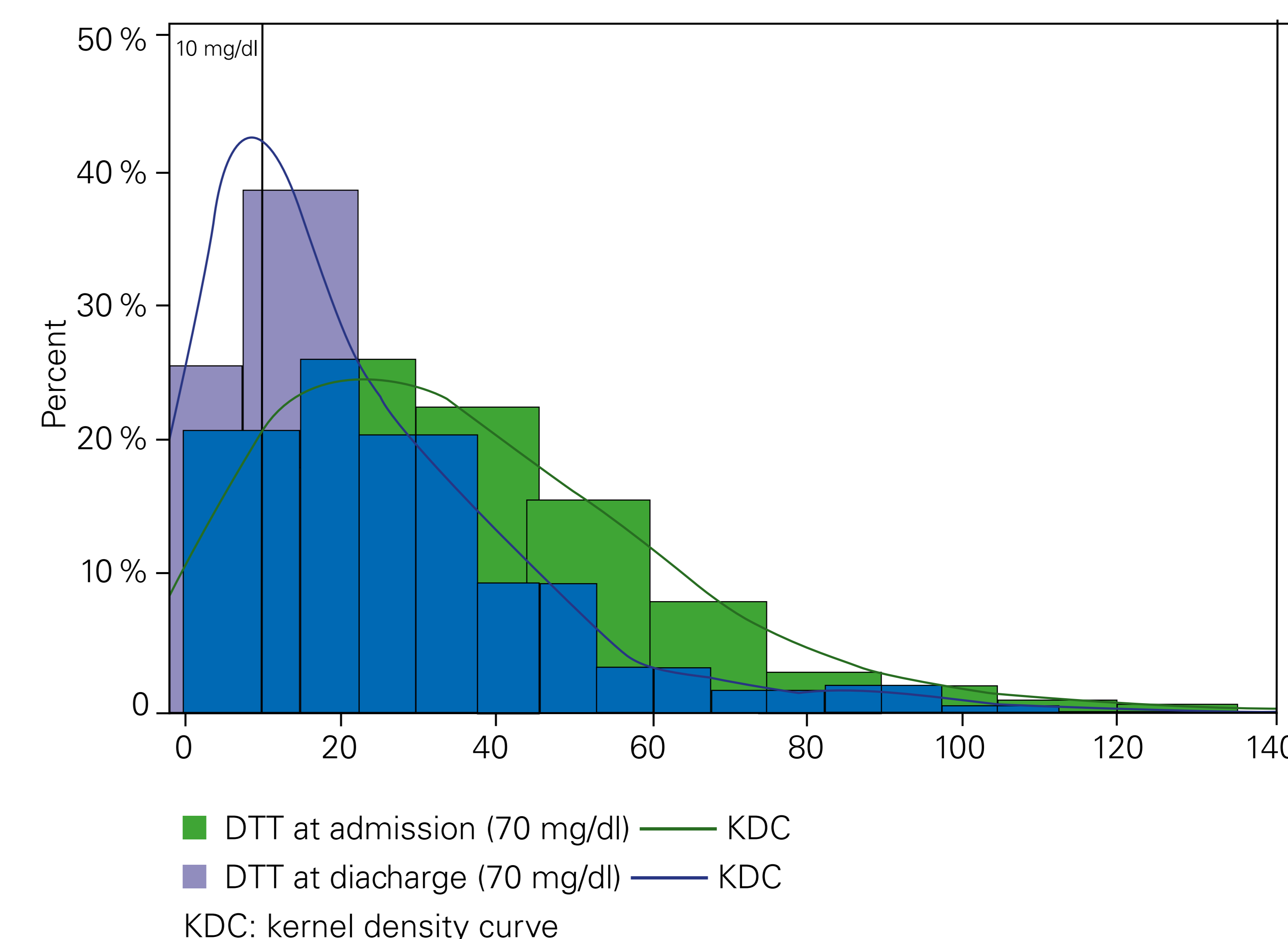
Fig. 2: LDL-C in mg/dl



RESULTS

Mean age of pts was 62 years, 73 % men, 47 % STEMI, 51 % NSTEMI. CR was started at an average of 19 days after the index event. Average duration of comprehensive CR was 22 days. All pts. completed a standardized training program with at least 5 x 30 min of physical exercise per week, nutrition counselling, education on healthy lifestyle, stress management, counselling on psychosocial risk factors and smoking cessation if necessary. 97 % of the patients were on statin therapy: 65 % received atorvastatin (mean daily dosage 38 mg/dl), 30 % were on simvastatin (mean daily dosage 34 mg). 13 % of the patients received any other lipid lowering medication, thereof 11 % ezetimibe.

Fig. 3: Distance to target (DTT) – LDL-C <70 mg/dl



CONCLUSION

Cardiac Rehabilitation significantly increased the achievement of LDL-C goal < 70 mg/dl to 43 % of pts. with STEMI or NSTEMI. Blood pressure, plasma glucose, triglycerides and exercise capacity were improved significantly through cardiac rehabilitation.