# Impact and treatment of diabetes (type 1 and 2) on prognosis in acute coronary syndromes – results from the Global Registry of Acute Coronary Events

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**Background:** Patients with ACS and diabetes mellitus have worse outcomes than nondiabetic patients with ACS. However, the improvement in outcomes observed recently in patients with ACS has not been seen in ACS patients with diabetes. Data from patients with type 1 diabetes are often analyzed together with those from patients with type 2 diabetes. However, the impact of the two types of diabetes on hospital outcomes in patients with ACS is unknown.

**Methods and results:** Data from patients enrolled in the GRACE study were analyzed. Baseline characteristics and in-hospital management and outcomes were compared for patients with type 1 and 2 diabetes, and for patients without diabetes (Table). Multivariate regression analysis revealed that both type 1 (OR 2.1) and type 2 (OR 1.8) diabetes are strongly predictive of in-hospital mortality and the development of heart failure or shock.

**Conclusion:** Patients with ACS and diabetes have higher rates of morbidity and mortality than ACS patients without diabetes. Furthermore, there are differences in the outcomes of patients with type 1 and type 2 diabetes, which are concealed if the data from these two groups are combined.

| | No diabetes | | | Type 1 diabetes | | | Type 2 diabetes | | |
|---|---|---|---|---|---|---|---|---|---|
| | Patients (%) | | | | | | | | |
| Character-istics (n) | STEMI (1994) | NSTEMI (1575) | UA (2104) | STEMI (124) | NSTEMI (205) | UA (198) | STEMI (333) | NSTEMI (334) | UA (425) |
| Male | 73 | 69 | 62 | 51 | 57 | 52 | 69 | 66 | 61 |
| History CHF | 6 | 11 | 13 | 21 | 29 | 31 | 9 | 20 | 15 |
| History MI | 20 | 31 | 42 | 40 | 45 | 56 | 30 | 40 | 47 |
| In-hospital events | | | | | | | | | |
| Killip class I | 82 | 81 | 87 | 65 | 59 | 75 | 74 | 70 | 86 |
| Cardiac cath | 52 | 54 | 38 | 55 | 52 | 42 | 56 | 53 | 44 |
| PCI | 36 | 28 | 15 | 38 | 27 | 14 | 34 | 26 | 19 |
| CHF | 8 | 6 | 4 | 11 | 18 | 9 | 10 | 11 | 5 |
| Death | 7 | 5 | 2 | 13 | 7 | 4 | 11 | 6 | 2 |

**Table.** Baseline characteristics and in-hospital events in patients with type 1, type 2 or without diabetes