

Acute Coronary Heart Syndrom (ACS): Hospitalizations in Germany Before and During Covid-19 Pandemic

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Objectives:

- Acute coronary syndrome (ACS) is a frequent cause of hospitalization in Germany.
- It is differentiated into instable angina (IA) and acute myocardial infarction (AMI), which again may be transmural (STEMI) nor not (NSTEMI).
- Revascularization by a catheter procedure (PCI) is a treatment option. Catheterization is also used to firstly diagnose the underlying coronary artery disease (CAD).
- Last decade the incidence of ACS hospitalizations slightly increased in Germany, but catheter procedures grew faster.
- Since 2020 Covid-19 pandemic changed life by social distancing and hospitalizations were an infection risk.
- We examined incidence change of ACS hospitalizations and withgoing procedures.

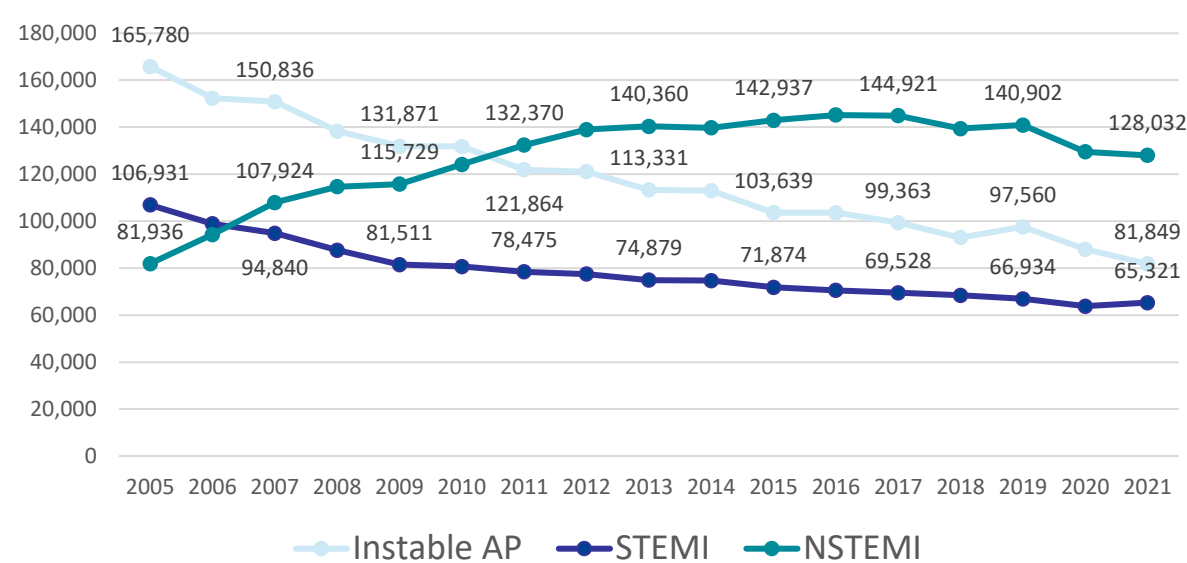
Methods:

- Reports from 2010-2021 had been reviewed from:
 - German DRG-Institute (*Institut für das Entgeltsystem im Krankenhaus, InEK*)
 - German statistical office (*Statistisches Bundesamt, DESTATIS*)
- Data were analyzed for ACS cases and treatment
- Analysis with Microsoft-Excel® and Access® 2019.

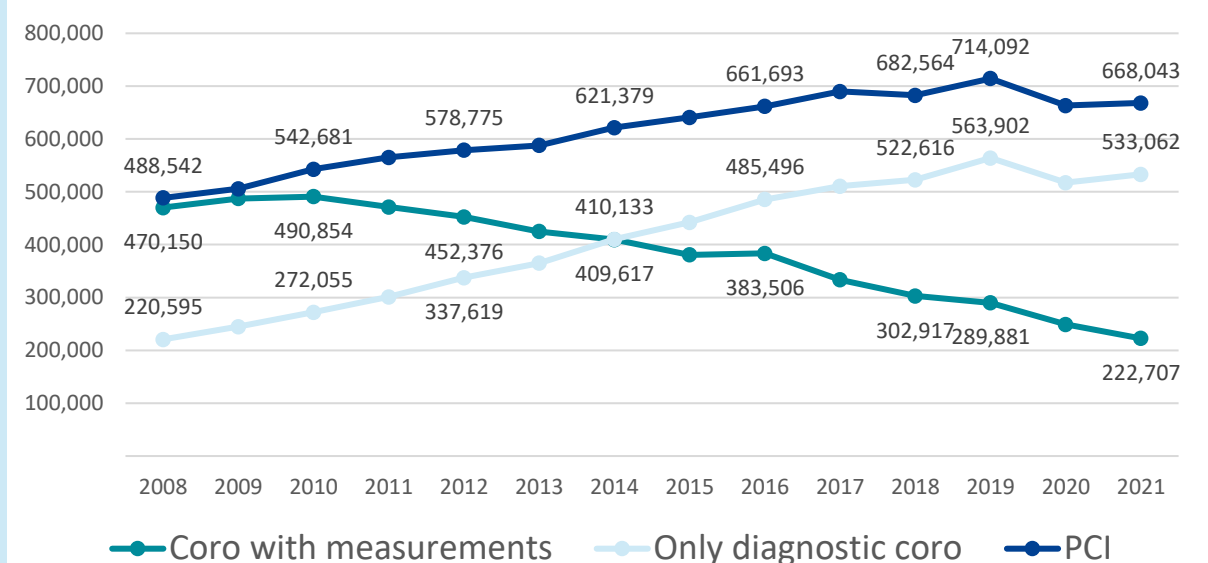
Results:

- Inpatient cases with main diagnosis ACS peaked in 2012 with 222,432 and decreased ever since to 193,383 (-13.1%) in 2021.
- Biggest yearly reduction 2019 to 2020 by 14,452 cases (-7.0%).
- From 2019 to 2021 cases were reduced:
 - IA cases by 16.1% (-15,711 cases),
 - NSTEMI by 9.1% (-12,780 cases),
 - STEMI by 2.4% (- 1,614 cases),
 - All ACS by 9.9% (-30,194 cases).
- Demographics remained unaffected despite the case-drop:
 - Average age IA in 2019: 68.6y, in 2021: 68.5y.
 - NSTEMI with 71.6y and
 - STEMI with 65.8y unchanged.
- Same for gender distribution: Share of female patients in 2021 (change from 2019):
 - Inst. AP 34.4% (-0.2%),
 - NSTEMI 34.3% (+0.3%),
 - STEMI 29.0% (-0.3%).
- Comorbidity and complication level (PCCL) was 2021 (change 2019):
 - Inst. AP 0.41 (-0.08),
 - NSTEMI 1.17 (-0.13),
 - STEMI 1.23 (-0.19).
- Cases with PCI dropped from 2019 to 2021 by 6.6%, catheter with any action by 23.2%, cases with only diagnostic catheter by 5.5%.
- The number of AMI with SARS-Cov-2 Infections was 2,043 in 2020

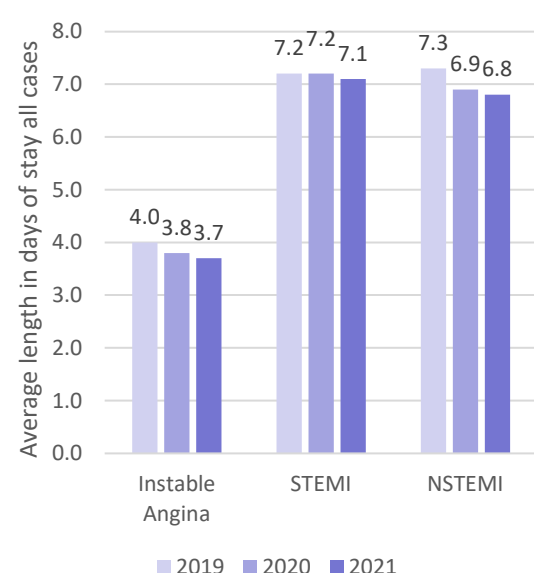
Long term trend of ACS hospitalizations in Germany



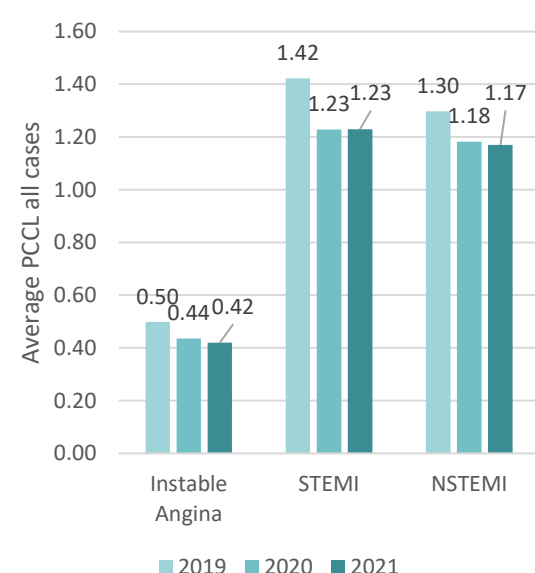
Long term trend of hospital CathLab activities



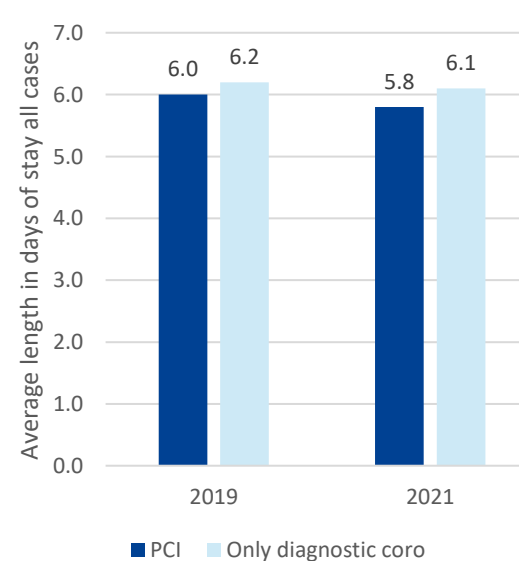
LoS ACS



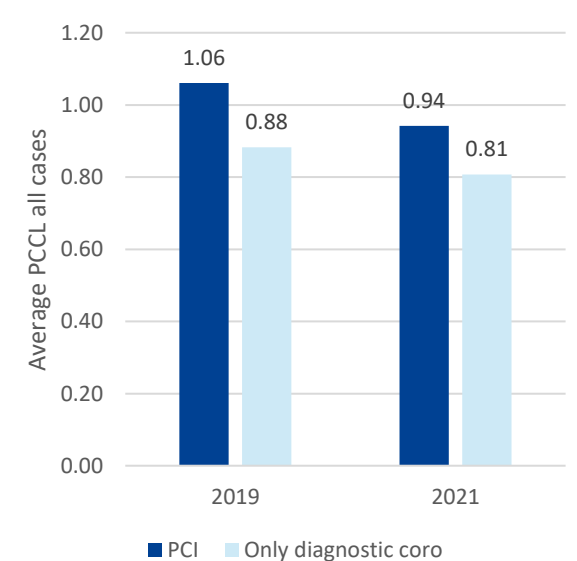
PCCL ACS



LoS CathLab activities



PCCL CathLab activities



Conclusions:

- In the period of Covid-19 pandemic the hospitalizations due to ACS dropped moderately, also PCIs and catheters, without changes in age or gender distribution.
- But cases had in average less comorbidities and complications. This phenomenon remains unexplained.
- 1.0% of hospitalized AMI cases in 2020 had simultaneously a detected SARS-Cov-2 infection