**SAPC N**

**11th November 2021**

**Abstract Submission**

**Deadline 20th September 2021**

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**Word limit: 296/300 words**

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**Title:** Musculoskeletal pain and its impact on prognosis following hospitalisation for acute coronary syndrome or cerebrovascular accident: a linked electronic health record cohort study (MSKCOM)

**Abstract:**

**Background:** There is evidence that painful musculoskeletal conditions are associated with increased risk of cardiovascular disease, but less is known about whether this impacts on prognosis of cardiovascular disease. The aim was to determine whether patients with painful musculoskeletal conditions have poorer prognosis following acute coronary syndrome (ACS) or cerebrovascular accident (CVA).

**The Approach:** Data were obtained from national primary care records (Clinical Practice Research Datalink; CPRD) with linkage to hospitalisation and mortality records. Patients aged >45 years with incident ACS/CVA recorded in primary care and a hospital admission within ±30 days were included. Patients were stratified by consultations in primary care for painful musculoskeletal conditions (by severity and by conditions) in the 24 months prior to ACS/CVA. Severe musculoskeletal pain was defined as prescription of strong analgesia or referral in the 6 months before ACS/CVA.

Outcomes included short-term (length of stay; readmission and mortality within 30 days of discharge), management (procedures during admission; prescriptions in the 3 months post-admission) and long-term (further ACS/CVA or mortality >30 days post-discharge).

**Findings:** There were 171,670 patients with incident ACS (median age 70 years; 36% female) and 138,512 with incident CVA (median age 76 years; 49% female); 30% of patients consulted for musculoskeletal pain prior to ACS/CVA. Patients with musculoskeletal pain were not at increased risk of worse outcomes after ACS/CVA compared to those without pain after adjustment for socio-demographics and comorbidity. Patients with severe musculoskeletal pain or inflammatory condition were more likely to receive a procedure for ACS, and prescriptions for ACS and CVA management.

**Implications:** Whilst this study is reassuring given the high prevalence and disabling nature of musculoskeletal conditions, it has highlighted the complexity of patients with severe musculoskeletal pain and new onset ACS and CVA including their burden of cardiovascular risk and prognostic factors.

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The study was approved by the CPRD Independent Scientific Advisory Committee (ref 20\_000105).

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