Low-Dose-Ketamine as an adjunct to morphine for acute pain in the ED: A protocol for a randomized, double-blinded, superiority trial

Background: Seventy percent of the yearly 1.8 million emergency contacts to the Danish hospitals arrives from patients in pain. Pain management is an essential and challenging part of emergency medicine and ineffective analgesia for patients attending the emergency department (ED) is common and can lead to complications, extended hospital stays and course of illness. Opioid-tolerant patients are an increasing challenge requiring different acute pain management, ie. needing much larger doses of opioids – which for a number of reasons they do not receive. The rising need for opioid sparing treatment and the difficulties in pain treatment of patients with a current use of opioids calls for clinical studies investigating effect and safety of alternatives. Low-Dose-Ketamine (LDK) has been studied as an analgesic and been shown to be useful in the reduction of acute pain in the postoperative setting. This study will evaluate the efficacy and safety of LDK as an adjunct to morphine in the treatment of pain in the ED. Hypothesis: LDK as an adjunct to morphine will be superior to morphine alone as regards of analgesic effect. The combination of morphine and LDK will result in a larger pain reduction in patients with a current use of opioids than patients with no prior use.

Methods: Randomized, double-blinded trial, investigating the combination of LDK and morphine versus IV morphine alone regarding analgesic effect. 152 patients fulfilling all inclusion criteria and no exclusion criteria will be stratified (prior use of opioids and no prior use of opioids) and randomized in a 1:1 ratio in the two groups. Perspectives: This is the first study to examine the effect of LDK as an adjunct to morphine in a general patient population in the ED with pain and to compare it with the effect for patients with a prior use of opioids. This study could present a better pain treatment for patients with and without a prior use of opioids.

Results: xxxx

Conclusion: xxxx.