Ivermectin treatment in humans for COVID-19

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Credit: AI-generated image (disclaimer)

Ivermectin, a drug used to treat parasites such as scabies in humans and intestinal helminths in cattle, was screened in 2020 for activity against COVID-19. Laboratory tests suggested a weak effect on SARS-CoV-2 virus in a test tube but did not seem feasible in humans as the doses needed would be large. However, small early trials suggested large

effects on mortality, and this has led to some advocacy groups lobbying for its widespread introduction worldwide.

Researchers from theCEOsys project collaborated with the LSTM-based Cochrane Infectious Disease Group (CIDG) to carry out a systematic review, published today in the *Cochrane Database of Systematic Reviews*, to explore the effects of ivermectin in preventing and treating COVID-19 infection.

The review authors included 14 randomized controlled trials with 1678 participants. Treatment of mild to moderate COVID-19 patients was investigated in 13 studies comparing ivermectin with placebo or with no treatment in addition to comparable usual care in the study arms. Only one study investigated prevention of SARS-CoV-2 infection and compared ivermectin to no treatment. The review looked at the effects of ivermectin on the number of deaths, whether the patient's condition worsened or improved, and unwanted effects.

The Cochrane review cannot confirm whether ivermectin (administered in hospital or as an outpatient) compared with placebo or usual care, leads to more or fewer deaths after one month, whether it improves or worsens patients' condition, increases or decreases unwanted side effects, nor whether it increases or reduces negative COVID-19 tests seven days after treatment. Likewise, the review cannot confirm whether or not ivermectin prevents SARS-CoV-2 infection or reduces number of deaths after high-risk exposure.

Main authors on the review, Maria Popp and Stephanie Weibel said: "The lack of good quality evidence on efficacy and safety of ivermectin arises from a study pool that consists mainly of small, insufficiently powered RCTs with overall limited quality regarding study design, conduct and reporting. Current evidence does not support using ivermectin for treating or preventing of COVID-19 unless they are part

of well-designed randomized trials."

Paul Garner, CIDG coordinating editor, said; "This is a great review from an experienced team. The hype around ivermectin is driven by some studies where the effect size for ivermectin is frankly not credible, and this has driven the conclusions in other reviews. The study with a huge effect has now been retracted as fake. Careful appraisal is the cornerstone of Cochrane's work, and with such extreme public demands for a drug to work during the pandemic, it remains vital that we hold onto our scientific principles to guide care."

More information: Maria Popp et al, Ivermectin for preventing and treating COVID-19, *Cochrane Database of Systematic Reviews* (2021). DOI: 10.1002/14651858.CD015017.pub2

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