

# Should ibuprofen be used for COVID-19?

*This write-up summarises a rapid evidence review of NSAIDs, particularly ibuprofen, to manage symptoms of patients with COVID-19. The information may be revised as new evidence emerges.*

## Background

A news article titled “COVID-19: ibuprofen should not be used for managing symptoms, say doctors and scientists” was published in BMJ on 17 Mar 2020.<sup>1</sup> It claims that anti-inflammatory drugs (eg. ibuprofen, cortisone) could aggravate infection in patients with suspected COVID-19 and paracetamol should be used in these patients; however different views were expressed.

## Clinical evidence

No clinical trials were identified assessing the safety of nonsteroidal anti-inflammatory drugs (NSAIDs) in managing symptoms of COVID-19. Instead, there are studies on the potential mechanisms of inflammatory responses and some proposes that systemic anti-inflammatory drugs or corticosteroids may be used together with other agents to prevent severe lung injury.<sup>2,3</sup>

The National Agency for the Safety of Medicines and Health Products (ANSM) of France issued a warning in April 2019 on the use of NSAIDs for patients with infectious diseases, based on an analysis of 20 years of real-world safety data of ibuprofen (n=337) and ketoprofen (n=49). It was concerned that existing infections might be worsened by the use of NSAIDs.<sup>4</sup>

A few recent reviews reporting on the safety of NSAIDs or ibuprofen in other infections show that:

- Despite some non-controlled evidence showing higher incidence of streptococcal toxic shock syndrome in patients using NSAIDs, overall similar safety profiles were demonstrated for ibuprofen and paracetamol in treating symptoms of colds and flu;<sup>5</sup>
- The role of ibuprofen in a variety of infections is currently being studied. It appears to confer benefits in some infections, but may be detrimental in other cases. However the role of ibuprofen as a contributory factor in infections has not been demonstrated;<sup>5</sup>
- NSAIDs should be used cautiously in patients with inflammatory arthritis and a history of gastrointestinal comorbidity as there is consistent evidence that they may be at increased risk of developing gastrointestinal events;<sup>6</sup>
- Conflicting results were reported on antipyretic drug use to suppress fever during infection, with some reporting improved patient outcomes and other increased mortality risk.<sup>7</sup>

## Recommendations from professional bodies

A number of international professional bodies, acknowledging the lack of scientific evidence, have provided advices on the use of ibuprofen for patients with COVID-19:

- WHO initially recommended to avoid ibuprofen as self-medication, unless it was prescribed by healthcare professionals. However, it has since retracted the initial recommendation, and states that “WHO does not recommend against the use of ibuprofen”, based on current published clinical or population-based data.
- NHS states there is no strong evidence that ibuprofen can make COVID-19 worse, but advises using paracetamol to treat symptoms of COVID-19, however patients who are already taking ibuprofen on the advice of a doctor should not stop taking it without checking first.

- Health Service Executive (Ireland) issued an advice about anti-inflammatory medication and COVID-19, suggesting patients to continue taking any existing medication, including ibuprofen, unless advised not to by their healthcare professionals.
- According to news report,
  - Australian health authorities rejected the claim that ibuprofen could worsen coronavirus infection, citing a lack of evidence. Patients should follow their doctor's advice if they are already taking anti-inflammatory drugs (7 news).
  - The Public health Agency of Canada has recommended that both paracetamol and ibuprofen may be used to treat fever for people in self-isolation during the COVID-19 pandemic (CTV news).

## Conclusion

There is lack of evidence evaluating the safety of ibuprofen to manage symptoms in patients with COVID-19. Overall, current evidence is inconclusive on the safety of ibuprofen in infections, and no evidence suggesting additional harms in managing symptoms of upper respiratory infections when compared to paracetamol.

## References

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