International Pharmaceutical Federation

FIP POSITION STATEMENT
on the association between the use of non-steroidal anti-inflammatory medicines (including ibuprofen), ACE inhibitors, angiotensin receptor blockers (ARBs) and corticosteroids, and an increased risk of coronavirus/COVID-19 infection or disease severity

Fédération Internationale Pharmaceutique

International Pharmaceutical Federation

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Different opinions have been circulating about the safety of the use of ibuprofen, ACE inhibitors, angiotensin receptor blockers and corticosteroids during the coronavirus/COVID-19 pandemic, suggesting an increased risk of infection or increased severity of disease. These medicines are widely used and any advice to cease usage will cause concern with patients and the public across all our nations. We know that community pharmacists, in particular, will be asked to advise on this issue and that advice will affect treatment choices.

Ibuprofen

The management of coronavirus/COVID-19 symptoms may involve the use of antipyretics and/or anti-inflammatory medicines for fever and mild pain. Angiotensin converting enzyme 2 (ACE2) has been proven to mediate cell entry by coronavirus/COVID-19 (Markus Hoffmann, 2020), and ibuprofen may be involved in increased expression of ACE2. However, in overall clinical practice, ibuprofen has a long- and well-established effectiveness in controlling the symptoms it is indicated for, both in mild and severe infectious disease. There is currently no conclusive evidence to establish a direct association between the use of non-steroidal anti-

inflammatory medicines (including ibuprofen) and increased risk of infection with coronavirus/COVID-19 or severity of disease. Notwithstanding, other medicines such as paracetamol (acetaminophen) may be considered for the management of fever and mild pain in COVID-19 patients if appropriate.

ACE inhibitors and angiotensin receptor blockers

ACE inhibitors and angiotensin receptor blockers (ARBs), often used in the treatment of diabetes or hypertension, are also associated with increased expression of ACE2. However, there is no evidence to support the assertion that treatment with ACE inhibitors or ARBs could predispose individuals to a higher risk of COVID-19 or adverse outcomes should they become infected with coronavirus/COVID-19. Concurring with several scientific and professional societies, FIP's advice is that patients should continue their treatment with ACE inhibitors or ARBs unless specifically advised to stop by their medical team.

Corticosteroids

Corticosteroids are not routinely recommended for viral pneumonia or acute respiratory distress syndrome, and should be avoided because of the potential for prolonging viral replication, as observed in MERS-CoV patients, unless indicated for other reasons (e.g., exacerbation of chronic obstructive pulmonary disease and refractory septic shock, following Surviving Sepsis Campaign Guidelines).

FIP's position is based on scientific sources referenced in FIP's Guidance on coronavirus/COVID-19, available here: www.fip.org/coronavirus.

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