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LETTER TO THE EDITOR

Analgesia and COVID-19

Dear editor,

In their comprehensive review of immunomodulatory effects of opioids and analgesics, Abdel Shaheed et al. report research indicating that some NSAIDs demonstrate in vitro and in vivo anti-viral activity against SARS-CoV-2, focussing particularly on indomethacin.[1] They point out that ibuprofen has not shown such activity, citing the work of Chen et al.[2] However, more recent in vitro research in Caco-2 cells indicates that ibuprofen does indeed suppress SARS-CoV-2 viral load,[3] albeit only at higher concentrations than those tested by Chen at al.[2] Flurbiprofen has similar anti-viral activity at higher concentrations.[3] The emerging evidence base for NSAIDs demonstrating in vitro anti-SARS-CoV-2 activity now includes indomethacin,[1] naproxen,[4] flurbiprofen,[3] and ibuprofen.[3]

The review also considers controversies surrounding immunization and whether the use of analgesics to treat post-vaccination symptoms adversely affects immunogenicity. This is particularly relevant in the present context of COVID-19 and concerns over vaccine hesitancy.

For vaccinations in general, Saleh et al. note observational studies are reassuring and that 'only few RCTS demonstrated blunted antibody response of unknown clinical significance'.[5] The authors suggest that timing of medication is paramount. In all studies reporting a negative effect on antibody response, medications were given prophylactically, before vaccination, rather than the more common practice of using medication after vaccination if required.[5]

The emerging evidence in COVID-19 immunization is also reassuring. In trials of the Oxford/AZ vaccine, a protocol amendment meant two of the five sites allowed prophylactic paracetamol to be administered before vaccination.[6] This significantly reduced adverse effects of the vaccine without compromising immunogenicity based on antibody titres.[6] A recent review by Ooi et al.[7] considers data from the Pfizer/BioNTech and Jansen/J&J trials in which analgesics and antipyretics were permitted, if needed, post-vaccination. Whilst younger participants were more likely to need medication than older participants, vaccine efficacy remained stable across age groups.[7] Furthermore, the fact that up to one-fifth of patients required analgesia did not prevent these vaccines from demonstrating remarkable efficacy.[7]

Whilst further research, particularly into cell mediated mechanisms, is required, current evidence supports the short-term use of analgesics after COVID vaccination.[7] As Omicron is currently surging in several countries, vaccination will continue to play a key role in limiting morbidity and mortality. Measures which reduce vaccine hesitancy—including the availability of effective post-vaccination symptom relief—have significant implications for public health.

COMPETING INTERESTS

The authors are employees of Reckitt, the owners and distributors of the Nurofen brand.

AUTHOR CONTRIBUTIONS

All authors were involved in the initial conception of manuscript. WL lead the drafting and coordinated the revisions of the manuscript between all authors, and all authors approved the final draft.

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