Magnesium sulphate intravenously reduces tachycardia side-effects of β_2-agonists

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To the Editor:

The review by Erumbala *et al.* [1] correctly proposing magnesium sulphate ($MgSO_4$) as the first intravenous bronchodilator missed vital points of its pharmacological actions. The *i.v.* drug reduces or eliminates tachycardia and palpitation side-effects of β_2-agonists [2–5]. As well as relaxing smooth muscle of the bronchi, vasculature, gut and uterus, $MgSO_4$ slows cardiac atrial conduction [6, 7], and was used in the past to revert supraventricular tachycardia and fast atrial fibrillation [8, 9]. There is no evidence to be found for the 20–30 min infusion rate for *i.v.* $MgSO_4$ of 40–75 $mg.kg^{-1}$, and this infusion time will not create a sufficiently high serum level to relax bronchial smooth muscle. In acute-severe and life-threatening asthma *i.v.* $MgSO_4$ followed by *i.v.* β_2-agonist is safe [10]; an infusion time of 5 min for $MgSO_4$ has evidence for the safety of this speed of injection in obstetric [11] and cardiac literature, albeit in adults.

Shareable abstract (@ERSpublications)
Intravenous magnesium sulphate allows safer intravenous β_2-agonist delivery in acute-severe and life-threatening asthma attacks https://bit.ly/3veUpfC

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