OPINION

Use of intravenous hyoscine butylbromide (Buscopan) during gastrointestinal endoscopy

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The Medicines and Healthcare products Regulatory Agency has recently circulated a Drug Safety Update regarding the risk of serious adverse events following the use of intravenous hyoscine butylbromide (Buscopan) in patients with underlying cardiac disease.¹

Buscopan is commonly used during endoscopic procedures. It induces smooth muscle relaxation and reduces spasm in the gastrointestinal tract. It is used during upper gastrointestinal endoscopy and small bowel enteroscopy to reduce contraction and aid mucosal visualisation.² During endoscopic retrograde cholangiopancreatography, it is used to facilitate access to the common bile duct during cannulation of the ampulla of Vater.³ During colonoscopy, it is used to reduce haustral definition to optimise mucosal visualisation and lesion detection.⁴

A recent survey of British gastroenterologists showed that 160/187 (85.6%) sometimes or always use Buscopan during colonoscopy.⁵ The benefits of Buscopan during colonoscopy have been demonstrated in a number of retrospective and prospective studies. In the English Bowel Cancer Screening Programme, intravenous Buscopan use was associated with a 30% increase in adenoma detection.⁶ Other data provide conflicting conclusions on whether Buscopan confers a benefit in terms of lesion detection.^{7–10} Improved insertion time and ease of ileal intubation has been observed.¹¹ A meta-analysis of available studies of Buscopan use concluded that it may provide marginal improvement

in adenoma detection rate and polyp detection rate; however, heterogeneity in the available data precluded firm conclusions.¹²

To date, the main perceived contraindication to Buscopan use, considered by gastroenterologists, has been glaucoma; however, Buscopan is considered safe in open-angle glaucoma and also in patients with closed-angle glaucoma who have had iridectomy. Rarely, Buscopan can precipitate undiagnosed previously asymptomatic acute closed-angle glaucoma. Patients should be advised to seek urgent ophthalmological advice if eye symptoms (painful red eye) develop following administration of Buscopan.

Endoscopists should be aware of the potential harmful effects of Buscopan. Buscopan is known to cause tachycardia and hypotension through its anticholinergic effects. The Drug Safety Update reports nine patients died after receiving hyoscine butylbromide injection; in most of these cases, the adverse reactions were reported as acute myocardial infarction or cardiac arrest. Anaphylactic reaction to Buscopan has also been reported. The safety update emphasises that tachycardia, hypotension or anaphylaxis can be more serious in patients with underlying cardiac disease such as heart failure, coronary heart disease, cardiac arrhythmia or hypertension. It is advisable to avoid the use of Buscopan during endoscopic procedures in patients who are already tachycardic or who have significant cardiac comorbidity.

Endoscopists should exercise caution when using Buscopan in patients with existing cardiac comorbidity and monitoring

of heart rate should be undertaken. Local policies should reflect these considerations. In the majority of patients, Buscopan use is safe, and there are significant potential beneficial effects in terms of increased lesion detection.

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