Conclusion This small pilot study suggest that opiate sensitive inhibitory mechanisms may have a role in controlling the cough reflex even in healthy subjects.

REFERENCES

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P11 THE ROLE OF GABAB RECEPTOR MECHANISMS IN THE HUMAN COUGH REFLEX

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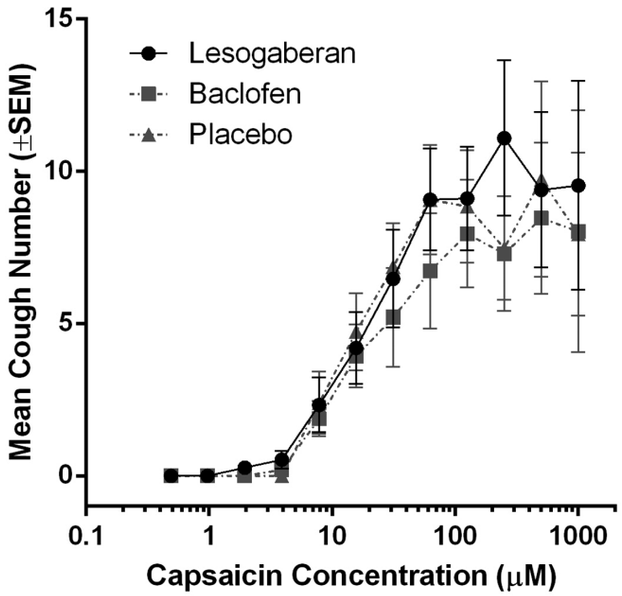
Background Chronic cough represents an important unmet clinical need. Gamma-aminobutyric acid is a major inhibitory neurotransmitter in the central nervous system (CNS). $GABA_B$ receptors have been identified peripherally, as well as centrally. Studies in guinea-pigs, have suggested that the activation of $GABA_B$ receptors in the CNS and PNS can inhibit cough. The only clinically available $GABA_B$ agonist is Baclofen, and although it has been shown to suppress cough in animals and humans, it causes drowsiness as it is centrally acting. Lesogaberan, is a novel, predominantly peripherally acting $GABA_B$ agonist.
Objective To determine whether both peripherally acting (Lesogaberan) and centrally acting (Baclofen) $GABA_B$ agonists modulate cough responses to inhaled capsaicin compared with placebo in healthy volunteers.
Methods Single centre, double-blind, double-dummy, three-way crossover trial in healthy controls of Lesogaberan (120 mg MR), Baclofen (40 mg) and placebo. Subjects were treated with single doses of each study medication with a washout period of ≥7 days between doses. Cough responses to inhaled capsaicin were assessed using a novel challenge protocol (1) measured at screening and 2 hrs post dosing (tmax) on each study day. The primary end point was the maximum number of coughs evoked at any concentration of capsaicin (Emax). The secondary end point was the concentration of capsaicin evoking 50% of the maximal response (ED50).
Results There were 15 patients enrolled onto the study with a median age of 29 years old (IQR25–44); 7 female; mean BMI was 24.6 (±3.0).

Lesogaberan treatment was associated with a small, statistically significant increase in Emax (mean 13.4 coughs, 95% CI 10.1–17.9) compared with placebo (11.8, 95% CI 8.8–15.9) (p = 0.04), but had no effect on ED50 (geometric mean 47.4 μM 95% CI 24.4–91.7 vs Placebo 37.6 95% CI 19.2–73.5 p = 0.37), see Figure 1.

In contrast, Baclofen had no significant effect on Emax (11.1, CI8.1–15.4) (p = 0.23), but, ED50 was significantly increased compared with placebo (geometric mean 75.2 μM 95% CI 37.2–151.8 p = 0.002).
Conclusion This data suggests the anti-tussive actions of $GABA_B$ agonists, against capsaicin-induced cough in healthy volunteers, occurs in the central rather than the peripheral nervous system.



Abstract P11 Figure 1

REFERENCES

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P12 THE USEFULNESS OF HEARTBURN AS A MARKER OF THE SUCCESS OF ACID SUPPRESSION THERAPY IN CHRONIC COUGH

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Background A recent retrospective analysis of randomised controlled trials has suggested that patients with chronic cough reporting heartburn are more likely to benefit from acid suppressive treatment than those without heartburn.[1] Therefore we set out to investigate the response rate to acid suppression treatment (PPI and or H2 antagonists) in patients attending our specialist cough clinic.
Objective To determine the relationship between reported responses to acid suppression treatment and the presence or absence of heartburn.
Methods We performed a retrospective review of 59 consecutive new referrals to the clinic. The presence or absence of heartburn is collected routinely in our standard clinic proforma. Patients who were treated with acid suppression either at our clinic or previously at another centre were included, together with their reported response to treatment. A Fisher's exact test was used to assess whether those with heartburn were more likely to report a response of their cough to acid suppression treatment than those without heartburn.
Results Of 59 new referrals (median age 58 (range 26–76), 44 female), 21 (35.6%) reported heartburn, whereas 38 (64.4%) did not. Forty-four subjects had completed a trial of acid suppression therapy; 7 (15.9%) reported either a partial or complete resolution of their cough, but 37 (84.0%) reported no response. Of those reporting heartburn, 5/21 (23.8%) also reported a response to acid suppression. Of those not reporting heartburn, 2/23 (8.7%) reported a response to acid suppression. Although a greater proportion of those with heartburn reported improvement of cough with acid suppression, this did not reach statistical significance (p = 0.23).
Conclusion This data suggests that in the setting of a specialist cough clinic few patients report a response of their cough to

Corrections

H Badri, CL Gibbard, D Valdramidou, *et al*. P11 The Role of GABAB receptor mechanisms in the human cough reflex. *Thorax* 2014;69(Suppl 2):A82. doi:10.1136/thoraxjnl-2014-206260.161.

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Chest clinic