

Short reports

Topical nasal anaesthesia for fiberoptic bronchoscopy: patients' preference for lignocaine gel

A R WEBB, M A WOODHEAD, H R DALTON, J A GRIGG, F J C MILLARD

From the Department of Medicine I, St George's Hospital Medical School, and the Department of Thoracic Medicine, St George's Hospital, London

ABSTRACT Two techniques for anaesthetising the nose before fiberoptic bronchoscopy have been compared. Fourteen of 16 patients given lignocaine spray found it unpleasant, compared with three of 20 patients given lignocaine gel. The two forms of local anaesthetic were found to be equally effective. Lignocaine gel is therefore recommended for topical nasal anaesthesia before fiberoptic bronchoscopy.

Fiberoptic bronchoscopy is usually performed via the trans-nasal approach. In a recent study of sedative techniques for day case fiberoptic bronchoscopy,¹ 33 of 73 patients reported topical nasal anaesthesia as the most unpleasant part of the procedure. This is in keeping with the findings of other workers who have used a topical lignocaine spray in the nose.² We have assessed the acceptability to operator and patients of a water soluble gel preparation of lignocaine (Xylocaine gel, 20 mg anhydrous lignocaine/ml: Astra Pharmaceuticals) as an alternative topical anaesthetic agent.

Methods

Forty consecutive patients presenting for routine diagnostic day case fiberoptic bronchoscopy were allocated to receive either a gel or a spray preparation of lignocaine, a permuted block randomisation code being used. Patients in the group receiving gel were asked to breathe through their mouths while topical anaesthesia of the nasal mucosa was induced with 5 ml lignocaine gel massaged into each nostril by a finger on the outer surface of the nose. In the group receiving the spray 80 mg of 4% lignocaine and 20 mg of 10% lignocaine were sprayed sequentially into each nostril and the bronchoscope was lubricated with a plain water soluble jelly before its introduction. Thus all patients received a total of 200 mg lignocaine applied to the nasal mucosa. All patients received a sedative and anticholinergic combination of alfentanil 9-12 µg/kg and glycopyrrolate 0.2 mg intravenously immediately before bronchoscopy.¹ Lignocaine solution was applied through the bronchoscope to the vocal cords, trachea, and bronchial tree in all patients.

A questionnaire designed to assess patients' comfort

Address for reprint requests: Dr A R Webb, Department of Medicine I, St George's Hospital Medical School, London SW17 0RE.

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during the application of topical anaesthetic was administered before discharge by a member of staff unaware of the group to which patients had been allocated. Patients were also asked to record how unpleasant they found the passage of the bronchoscope through the nose on a visual analogue scale. This assessment was used to compare the efficacy of topical anaesthesia in the two groups, a horizontal scale being labelled "Not at all unpleasant" at zero and "Intolerable" at 10 cm. Approval for the study was obtained from the local ethical committee.

Quantitative data were analysed by Student's *t* test and qualitative data by the χ^2 test.

Results

There was no significant age difference between the groups. Passage of the bronchoscope through the nose was impossible in four patients in the group receiving spray. These patients went on to have successful bronchoscopies by the transoral approach and were excluded from subsequent analysis in view of the difference in technique.

The results of the questionnaire are presented in the table. Fourteen of the 16 patients available for analysis in the group receiving spray reported that they found the application of the topical anaesthetic unpleasant, compared with three of 20 patients in the group receiving gel. The most common reasons cited for the unpleasant sensation included a bad taste in the mouth and discomfort or pain during the application of the topical anaesthetic. After arcsin transformation to normalise the data³ the mean (SD) visual analogue scale scores were 1.4 (1.5) cm for the group receiving gel and 1.9 (1.4) cm for the group receiving spray (*t* = 1.115, not significant).

Results of the questionnaire before discharge

	Spray	Gel	χ^2 (Yates)	<i>p</i>
Patients available for analysis	16	20		
Application of topical anaesthetic unpleasant	14	3	15.951	0.0001
Reasons				
Bad taste	6	0	6.503	0.01
Discomfort or pain	5	2	1.385	NS
Other	3	1		
Prefer a different method of application of topical anaesthetic	2	2	0.088	NS

Discussion

Lignocaine gel is an effective method of applying topical anaesthesia to the nasal mucosa before the introduction of a fiberoptic bronchoscope. The visual analogue scale scores suggested that lignocaine gel was at least as effective as the lignocaine sprays that are currently in common use. The technique was preferred by patients and considerably reduced the bad taste and discomfort so often complained of when lignocaine spray is used.

The lubricating effect of the gel is clearly an advantage. The volume of lubricant applied with the gel technique is far greater than would be smeared on a bronchoscope before its introduction into the nose. Despite this, we noted no difficulties with clouding of vision or suction channel occlusion with the gel. We have found that the most

successful technique is to apply the gel, directly from a tube, via the conical applicator supplied, while the patient breathes through the mouth. The gel is gently massaged to the back of the nostril with a finger placed on the outer surface of the nose.

References

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