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GASTROSCOPY WITHOUT SEDATION USING LIDOCAINE GEL FOR PHARYNGEAL ANAESTHESIA - PATIENT EXPECTATIONS AND BEHAVIOUR

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Resumo

Objetivos: Estudar o benefício do gel de lidocaína 2% na anestesia da faringe, na gastroscopia.

Métodos: Administrou-se 15 minutos antes da endoscopia 5 ml de gel de lidocaína 2% na faringe de 309 utentes, que aceitaram não ser sedados. Fizeram-se entrevistas antes e depois do exame.

Resultados: Depois do exame, 73,7% dos doentes consideraram o exame como fácil, 83,6% mais fácil do que esperavam e apenas 4,2% não o recomendariam; não houve diferenças entre os sexos, idades, nem entre os que tomavam sedativos. Antes do exame, 13,7% dos homens e 32,3% das mulheres desejavam ser sedados ($p < 0,001$). Depois do exame, 21,2% de ambos os sexos gostariam de ter sido sedados; as mulheres mudaram mais de opinião; 76,3% dos homens e 61,4% das mulheres não quiseram ser sedados e não mudaram de opinião. Os doentes com mais de 50 anos apresentaram significativamente menos: agitação das pernas, (*odds-ratio* (OR): 0,349); choro (OR: 0,416) e vômitos (OR: 0,349) do que os doentes com menos de 50 anos, sem diferenças entre sexos.

Conclusões: Com gel de lidocaína, três quartos dos doentes consideraram a gastroscopia como fácil e não desejaram sedação. Os doentes devem ser encorajados a experimentar o exame sem sedação.

Summary

Objectives: To assess the benefits of lidocaine gel 2% for topical pharyngeal anaesthesia in gastroscopy.

Methods: Three hundred and nine patients, who had accepted not to be sedated, received 5 ml lidocaine gel 2%, to the pharynx, 15 minutes prior to endoscopy. Interviews were made before and after the examination.

Results: After the procedure, 73.7% of patients stated the examination had been easy, 83.6% easier than expected, and 4.2% would not recommend it; there were no differences between gender, age, or sedative taking. Before the procedure, 13.7% of males and 32.3% of females wanted sedation ($p < 0.001$). After the examination, 21.2% of both genders would like to have been sedated; more women changed their opinion about sedation, and 76.3% of men and 61.4% of women neither wanted sedation nor changed opinion. Patients older than 50 years had statistically less occurrences of: swinging of the legs (*odds-ratio* (OR): 0.349); crying (OR: 0.416), and retching (OR: 0.349) than patients under 50; there were no differences regarding gender.

Conclusions: Lidocaine gel is quite acceptable for unsedated gastroscopy. About three quarters of patients do not want sedation and find the examination easy. This study suggests that patients should be encouraged to avoid sedation.

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INTRODUCTION

Endoscopic examinations are a cause of anxiety and discomfort in patients. The use of intravenous sedation for the control of anxiety in upper gastrointestinal endoscopy differs widely, both among countries and endoscopists (1,2). It is highly usual in Americans, but less frequent in Europeans and even less so in Asians (2, 3). Anxiety in endoscopy may be due to 3 factors: 1 - information about the examination obtained from friends or family; 2 - fear of pain, loss of control or suffocation; 3 - fear of cancer or other incurable diseases. Raymond *et al.* found that acceptance of endoscopy without seda-

tion was greater with: the male gender; absence of usual benzodiazepine medication; endoscopy performed in private practice or private hospitals, and a smaller size of the endoscope (4). Factors such as ambience in the endoscopy room (background music, silence, or conversation related or unrelated to the patient's complaints) have little effect on diminishing anxiety and improving tolerance to endoscopy (5). Midazolam has been shown to improve patient tolerance, conscious sedation and anxiolysis better than diazepam (6). Propofol has also been considered to be safe for endoscopic procedures (7). Propofol + midazolam has been compared to propofol alone, showing no benefit resulting from the combi-

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nation of both drugs (8). Midazolam plus meperidine was better than midazolam alone in one study (9). Regarding children, a combination of midazolam and ketamine appears to provide a safe and effective sedation (10). Hypnosis provides no benefit over sedation (11). Some patients believe music to be helpful (12). Reduced endoscope diameter has also positively influenced comfort, when compared with standard-bore instruments, with and without sedation, and by oral or nasal route (13, 14). However, Birkner *et al.* believe that ultrathin endoscopes through both the transnasal and oral routes would have limited use in routine outpatient practice (15). Topical pharyngeal anesthesia improves patient tolerance to the procedure, but increasing the dose does not prevent the need for sedation in some patients, owing to discomfort or anxiety during the procedure (16). Elderly subjects tolerate endoscopy better without sedation (17). Gastroscopy with sedation is time consuming and may bring complications and increased costs (18).

The objective of this work was to study patients' tolerance and anxiety during gastroscopy, without sedation, using only lidocaine gel for pharyngeal anesthesia.

MATERIAL AND METHODS

Three hundred and nine patients were enrolled in this study. Median age was 58.9 ± 17.4 years (ranging from 16 to 87 years old). There were 140 men (45.3%) and 169 women (54.7%). On arrival at the outpatient clinic, located in the Portuguese region of Coimbra, patients were interviewed by two clinical psychologists, to evaluate pre-endoscopic anxiety and to assess the impressions the patients, and their friends or acquaintances, had about previous endoscopy-related experiences. The interview also collected personal data (age, gender, marital status, educational level and job), history of endoscopy, indications for endoscopy and length of fast. During the procedure, the psychologists registered: time to reach upper oesophagus, time to reach duodenum, total endoscopy time, and if biopsies were taken. Patients reactions and behavior, during the procedure, and apparent tolerance to it, were registered in a checklist, which included the following items: patient became pale-faced, blushed, contracted hand muscles, made grimaces, expressed sounds of pain, swung the body or the legs, cried, refused the examination, tried to speak, looked at the examination on the video monitor, retched, others(s). Indications for endoscopy were: odynophagia, dysphagia, heartburn, regurgitation, nausea or vomiting, dyspepsia, abdominal pain, previous hematemesis, anaemia and weight loss.

All patients accepted to be subjected to the examination without sedation, even those who wanted to be sedated. Pharyngeal anaesthesia was obtained with 5 ml of lidocaine gel 2%, ingested 15 minutes before the endoscopy and rolled in the mouth and oropharynx for several minutes. Examinations were performed by a single gastroenterologist with 20 years of experience in gastroscopy. *Olympus* GIF Type Q145, 9.8 mm in diameter, was used for intubation. Endoscopy was performed on the left lateral position. The endoscope was introduced under direct visualization of the larynx and patients were advised to breathe deeply and slowly to avoid developing symptoms of respiratory alkalosis. Fifteen minutes after the endoscopy, patients were again interviewed again to rate their impressions of the examination in 2 levels of tolerance and discomfort.

The relationship between variables was analyzed using Odds-Ratio, Chi-Square, Kolmogorov-Smirnov and Mann-Whitney statistics. All data was analyzed using SPSS 12 computer program (19).

RESULTS

Descriptive analyses reported that, of the 309 patients submitted to endoscopy in this study, 196 (63.3%) had performed one or more previous endoscopies, and 59.2% described it as having been easy and 40.8% as difficult. Of those who had heard about the examination from other people, 59.6% had heard it to be a difficult examination, and only 40.4% had heard it was easy. Despite this, 87.8% of the subjects revealed they had had the self-control to easily tolerate the procedure. No gender-related differences were found regarding this. During the procedure, 36% of patients confessed to being anxious, but 64% admitted not feeling much anxiety; once again no gender-related differences having been found (Table 1).

During the examination, patients older than 50 had statistically less of the following: swinging of the legs (Odds-Ratio = 0.349; CI 95% 0.176-0.690); crying (OR = 0.416; CI 95% 0.188 - 0.922); and retching (OR = 0.349; CI 95% 0.223 - 0.609), than patients under 50; once more, no gender-related differences were found (Table 2).

After the procedure, 73.7% of patients stated the examination had been easy, and 26.3% as difficult, 83.6% declared it to have easier than previously expected, and only 4.2% would not recommend it to other people; there were no gender differences for subjects younger or older than 50, or between those who usually take sedatives or antidepressants and those who do not.

Before the procedure, 13.7% of males and 32.3% of

Table 1 - Patient perceptions and preconceptions regarding UGE

		Total	Men	Women	Sig.
Impression from Previous Exams	Easy	59.2%	66.0%	53.3%	NS
	Difficult	40.8%	34.0%	46.7%	
Information from other	Easy	40.4%	39.1%	41.5%	NS
	Difficult	59.6%	60.9%	58.5%	
Perception of self-control	Won't have control	12.2%	10.3%	13.8%	NS
	Will have control	87.8%	89.7%	86.2%	
Before the procedure	Wanted sedation	23.9%	13.7%	32.3%	p < 0.001
	Did not want sedation	76.1%	86.3%	67.7%	
After the procedure	Wanted sedation	21.2%	15.1%	26.2%	p = 0.018
	Did not want sedation	78.8%	84.9%	73.8%	
Anxiety during the exam	Did not feel anxious	64.0%	77.1%	53.0%	NS
	Felt anxious	36.0%	22.9%	47.0%	
Perception of the examination	Easy	73.7%	80.0%	68.5%	NS
	Difficult	26.3%	20.0%	31.5%	
	Easier than expected	83.6%	85.0%	82.4%	
	Would not recommend	4.2%	5.0%	3.6%	

females would like to have been sedated and this gender-related difference was statistically significant ($X^2 = 13.54$; $p < 0.001$). After the examination, 21.2% of patients of both genders would like to have been sedated; more women changed their mind to not wishing to be sedated, which made the differences between genders statistically insignificant. It is important to note that 76.3% of men and 61.4% of women had not want to be sedated and did not change their opinion (Table 3).

DISCUSSION

Gastroscopy is a generalized examination for the diagnosis of upper GI diseases. This procedure is somewhat frightening for some patients, while others perform it easily (20). Detailed explanation prior to endoscopy does not reduce patients' anxiety (21). Sedation with midazolam or propofol has been used, with variable success, in hospitals and large private facilities, but it is not legalized for private practice in most countries (6-8,22). Intravenous diazepam can be administered without restrictions for outpatient sedation, in selected cases of anxious patients who would otherwise not tolerate the examination (5). Sedation is not risk-free, particularly in older patients (17,22). Ross and Newton found that, in older patients (mean age = 51.5 years), the increase in blood pressure and heart rate during gastroscopy were

greater in sedated subjects (23). In this and other studies, many patients did not want to be sedated (1,23). Furthermore, sedation is time-consuming, increases the cost of the examination, frequently precludes patients from their regular duties for the rest of the day, inhibits them from driving for a period of time, and increases the risk of complications (25). Ultrathin endoscopes seem to be quite adequate for endoscopic diagnosis and are well tolerated through the oral or the nasal route (13,14,25, 26). Nevertheless, some authors believe they are of limited use in routine outpatient practice and do not improve tolerance and acceptance in a significant way, although the oral route is better than the nasal route (15, 27). Our study has shown that lidocaine gel 2% is quite acceptable for 74% of patients, who considered the examination to be easy with throat gel alone. Pereira *et al.* have found similar numbers with spray (28), but other authors encountered lower figures and observed that smokers and young patients did not tolerate endoscopy as well as non-smokers and older people (29). This examination was viewed negatively, since about sixty percent of patients had heard about other people's bad experiences. It was conceivable that this information could influence them. Nevertheless, 73.7% of all patients found the examination easy, 83.6% admitted it to be easier than expected and only 4.2% would not recommend it to others. The data in this study shows that hearsay did not significantly influence tolerance to

Table 2 - Patient behaviour during UGE

	Gender		Chi-Squared			Total
	Male	Female	Value	df	p	
Pallor	0.7% (1/140)	0.0% (0/169)	1.211	1	0.271	0.3% (1/309)
Facial flushing	90.0% (126/140)	86.4% (146/169)	0.946	1	0.331	88.0% (272/309)
Grimacing	7.9% (11/140)	5.9% (10/169)	0.455	1	0.5	6.8% (21/309)
Contraction of hand muscles	30.7% (43/140)	30.2% (51/169)	0.01	1	0.919	30.4% (94/309)
Body rigidity	6.4% (9/140)	5.3% (9/169)	0.17	1	0.68	5.8% (18 /309)
Agitation (whole body)	11.4% (16/140)	10.7% (18/169)	0.047	1	0.828	11.0% (34/309)
Agitation (legs)	15.7% (22/140)	11.2% (19/169)	1.33	1	0.249	13.3% (41/309)
Swearing	0.7% (1/140)	0.6% (1/169)	0.018	1	0.894	0.6% (2/309)
Moaning	8.6% (12/140)	11.2% (19/169)	0.605	1	0.437	10.0% (31/309)
Crying	9.3% (13/140)	8.9% (15/169)	0.016	1	0.901	9.1% (28/309)
Coughing	47.9% (67/140)	41.4% (70/169)	1.286	1	0.257	44.3% (137/309)
Retching	32.1% (45/140)	27.2% (46/169)	0.894	1	0.345	29.4% (91/309)
Watching the monitor	70.0% (98/140)	71.0% (120/169)	0.037	1	0.847	70.6% (218/309)
Refusal to watch monitor	8.6% (12/140)	9.5% (16/169)	0.075	1	0.785	9.1% (28/309)
Refusal of procedure	0.0% (0/140)	0.0% (0/169)				0.0% (0/309)

the procedure. These facts may mean that the examiners' skills and the use of coping strategies may eventually play an important role in reducing state anxiety in patients undergoing gastroscopy.

After the examination, only 26.3% of the patients admitted it had been difficult. Only women changed their opinion-

from wishing to be sedated to not wishing to be sedated (3). Since about three quarters of the patients submitted to endoscopy had not wanted to be sedated, and did not change their opinion after the examination, administering sedation to all patients, indiscriminately, does not seem to be acceptable. Furthermore, this procedure would carry unnecessary costs and risks. It is necessary to develop better means of recognizing those patients who would not tolerate the examination. Sedating the patients who want to be sedated, who have a hyperactive gag reflex and those who show high levels of anxiety seems to be good practice.

Table 3 - Wish for sedation

		Before the Exam					
		Wants			Does Not		
		Men	Women	General	Men	Women	General
After the Exam	Wants	5.3%	19.6%	13.1%	9.9%	6.3%	8.0%
	Does Not	8.4%	12.6%	10.7%	76.3%	61.4%	68.2%

CONCLUSION

This study shows that lidocaine gel is adequate for most

patients submitted to gastroscopy, since most of them do not want sedation. Information obtained from other people increases anxiety, but has no influence on tolerance or discomfort during the examination. Confidence in the endoscopist and coping strategies may increase acceptance of the procedure. There will probably always be a small number of patients who only accept the examination if they are not fully conscious.

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