

The Wellbeing of Patients -Commentary on “Music does not Alter Anxiety in Patients with Suspected Lung Cancer Undergoing Bronchoscopy: A Randomised Controlled Trial” – European Clinical Respiratory Journal



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Commentary

Besides ensuring a high diagnostic yield and safety through bronchoscopy it is the opinion of the authors that it is important to ensure the wellbeing of patients. That was our focus in the study published in European Clinical Respiratory Journal with the title “Music does not alter anxiety in patients with suspected lung cancer undergoing bronchoscopy: a randomised controlled trial”.

Patients undergoing different procedures in hospital settings may fear the anesthesia, surgical intervention and outcomes. Anxiety can determine increased intraoperative anesthetic requirement and also lead to a lower level of satisfaction with the treatment [1]. There has been a growing interest in the possible influences of anxiety on the course and outcomes of treatments, as well as in the study of anxiety-reducing interventions.

The thought of bronchoscopy, which is a common procedure in diagnosing lung cancer, may also trigger anxiety. Patients exhibit, for example, fear of breathlessness, pain, loss of control, and fear of the unknown [2].

Anxiety can be relieved with sedation [3-5]. At the outpatient clinic at Bispebjerg Hospital patients undergoing bronchoscopy are mainly sedated with Midazolam as a bolus injection. If an EBUS (Endobronchial Ultrasound) is expected, or the patient does not seem sufficiently sedated, this is obtained with Fentanyl, also as bolus injection. Figures 1-3 visualise the administration of Midazolam and Fentanyl to the patients

included in the study. An increased higher dose of sedatives leads to an increased risk of respiratory depression [6-9]. A reduced lung function is common in patients undergoing bronchoscopy to detect lung cancer. Patients included in our study had a mean FEV1 of 75.0% (SD 22.3) of predicted, and in the excluded patients the mean FEV1 was even lower (66.4% (SD 21.67)). Therefore sedatives must be given with caution, and it is of interest to investigate other means of relieving anxiety, fear and discomfort.

Music has been investigated earlier in relation to bronchoscopy, but with different outcomes, music genres, audio devices and dosage, and with contradictory findings [10-13]. Same findings apply to other invasive procedures [14,15]. We hypothesized, though, that “MusiCure-music as medicine” played before and during bronchoscopy might relieve anxiety for patients undergoing bronchoscopy to detect lung cancer. We chose “MusiCure-music as medicine” because it has been investigated before, and the composer has designed the music to be calming and soothing and promotes his music as medicine. Studies investigating MusiCure have mostly been done in connection with cardiac surgery and postoperatively. These studies have different outcomes, but most of them favour MusiCure [16-23].

Our primary outcome was Spielberger’s State-Trait Anxiety Inventory (STAI). The STAI-State scores at the time of admission were similar in the two groups, in our study, whereas a significant

difference in the STAI-State score (median (IQR) 35 (18) versus 43 (25); $p = 0.03$, $r = -0.18$) was observed between the music and the control group prior to bronchoscopy, with lower scores in the music group, but a multiple regression analysis revealed that treatment group was not a significant predictor of STAI-State level in the operating theatre when adjusting for gender and baseline anxiety.

This brought us to the conclusion that MusiCure played for 10 minutes before bronchoscopy does not alter anxiety and, in addition, that it is very important to look out for confounders when researching the effect of music on anxiety.

Administering music before and during bronchoscopy did not reduce the amount of sedatives neither (Table 1). Though we could not conclude that music could relieve the anxiety of patients who have to undergo bronchoscopy, or reduce amount of administered sedatives, we saw a highly significant

difference between the music and the no-music group rating their experience of sound in the operating theatre (Figure 4). So administering music to patients undergoing bronchoscopy might not relieve anxiety, but it enhances the comfort of patients undergoing bronchoscopy.

Table 1: Percent of patients receiving Midazolam and Fentanyl with music or no music. There are no significant differences between the groups on amount of sedatives.

Midazolam	0 mg	2.5 mg	5.0 mg	7.5 mg	10.0 mg	12.5 mg	20.0 mg
Music	0.0%	1.3%	35.9%	47.4%	14.1%	1.3%	0.0%
No-Music	1.4%	0.0%	46.6%	38.4%	11.0%	1.4%	1.4%
Fentanyl	0 ug	25 ug	50 ug	75 ug	100 ug		
Music	38.5%	0.0%	43.6%	1.3%	16.7%		
No-music	39.7%	1.4%	42.5%	0.0%	16.4%		

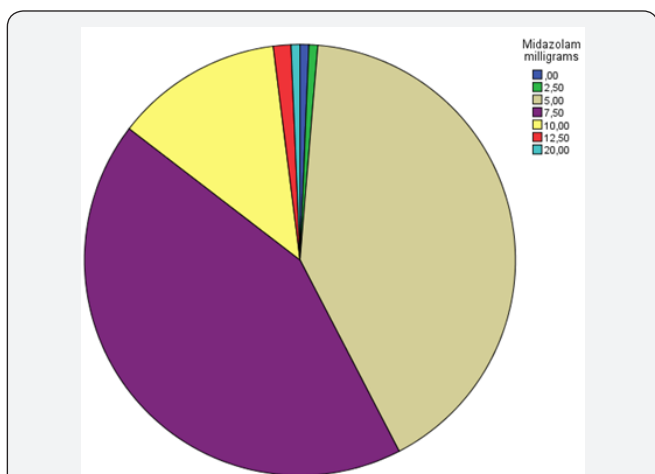


Figure 1: Doses of midazolam administered to the patients included in the study.

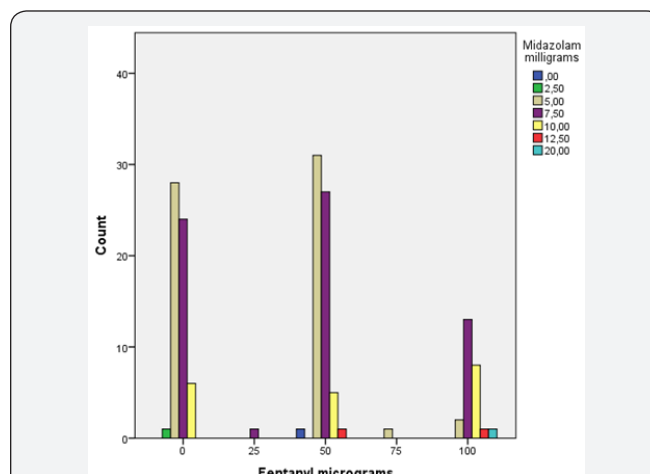


Figure 3: Visualisation of how many micrograms of fentanyl follows the different doses of midazolam in the study

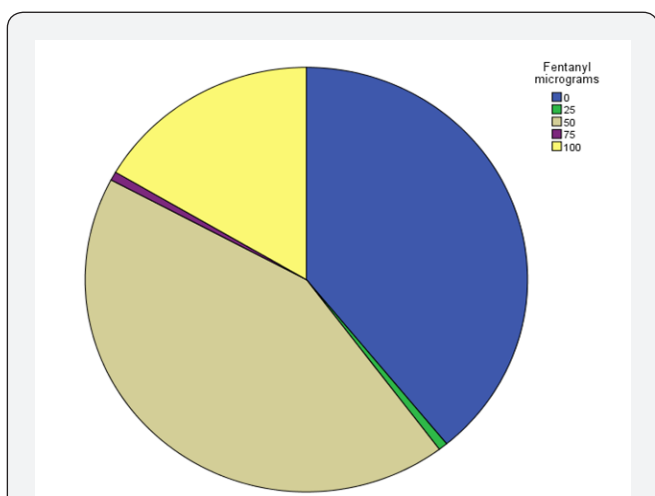


Figure 2: Doses of fentanyl administered to the patients included in the study

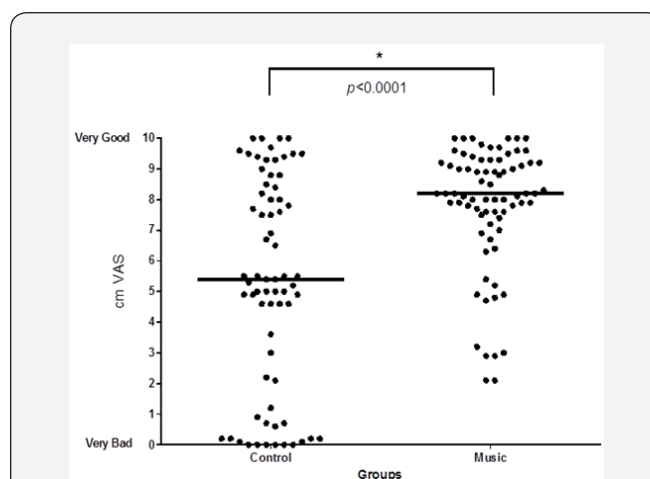


Figure 4: Patients' overall perception of the sounds in connection with the procedure. The horizontal lines represent the median within the group.

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