

## ANXIETY AND POSTOPERATIVE PAIN

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*[Ansia e dolore postoperatorio]*

### ABSTRACT

*The authors observed the pre-operative level of anxiety in a group 50 patients awaiting surgery and then the level of post-operative pain. The Zung Self-Rating Anxiety Scale questionnaire was administered to monitor the state of anxiety, while the numerical analogue scale was used to quantify the post-operative pain. This study revealed the presence of a low-to-moderate level of anxiety in all patients observed as well as the presence, in a large number of patients, of post-operative pain, despite the analgesic therapy already provided.*

**Key words:** Anxiety, postoperative pain, minimal sedation, analgesia.

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### Introduction

Many authors have indicated anxiety as the main cause of post-operative pain that does not respond to common analgesia procedures<sup>(2,4,7)</sup>. Like pain, it triggers a stress reaction, which, if excessive, has a negative impact on the peri-operative outcome, generating cardiocirculatory, respiratory, metabolic and endocrine alterations and causing complications that can affect the outcome of surgery and extend the length of stay<sup>(6,8)</sup>.

The first studies on the relationship between anxiety and outcome in a surgical patient date back to Janis in 1958. These have been reviewed by many authors including Zeev, Spielber, and more recently Paoletti.

Acute post-operative pain is a pain in the patient undergoing surgery, caused by various factors, including pre-existing disease, type of surgical procedure, and patient-specific factors such as individual pain threshold, age, gender, previous experiences related to hospital admissions, and presence of depression or anxiety related to different causes such as fear of anesthesia, surgery or the early or late post-operative period.

The purpose of our study was to assess the level of preoperative anxiety, using a simple self-rating questionnaire (Zung questionnaire) and measure the intensity of post-operative pain in the same patients, using the numerical analogue scale.

### Materials and methods

A total of 50 patients, aged 20 to 77 years, 23 men and 27 women, were examined. They were waiting to undergo oncology surgery and minor or major surgical procedures followed by post-operative analgesia according to SIAARTI guidelines.

Before surgery, all patients were administered the Zung questionnaire for anxiety assessment.

The Zung questionnaire consists of multiple-choice questions (rarely, sometimes, often, very often), each corresponding to a number from 1 to 4, which, summed together, gives a score that makes it possible to divide patients into the following groups:

- Patients with a score up to 20 (very low anxiety level)
- Patients with a score from 21 to 40 (low anxiety level)

- Patients with a score from 41 to 60 (moderate anxiety level that can benefit from treatment)

- Patients with a score from 61 to 80 (high anxiety level, in need of treatment and clinical care)

The questions put to the patients, twenty in all, are relevant to the identification of a state of anxiety specific to the patient, or caused by the reason for hospitalization.

The intensity of post-operative pain was recorded in these patients, 12 hours after the end of surgery, using the numerical analogue scale.

## Results

Pre-operative anxiety showed a high incidence. A level of low anxiety was observed in 56.66% of patients, while a moderate level of anxiety calling for treatment was registered in 43.34% of patients.

The anxiety level relating to the type of procedure was higher in patients with neoplastic diseases and in 100% of these patients an anxiety level corresponding to the 3rd group (moderate anxiety that can benefit from treatment) was observed.

With regard to post-operative pain, a moderate-to-severe level of pain was observed in 50% of patients, namely a high incidence despite the administration of analgesia.

The highest level of post-operative pain, amounting to 9 according to the numerical analogue scale, was observed in patients with neoplastic disease, who also presented a high anxiety level, thus belonging to Zung's 3<sup>rd</sup> group (moderate anxiety that can benefit from treatment).

## Discussion

Especially when it is associated with pain, personal and family problems, fears and uncertainties about the future and this occurs frequently with diseases that lead to surgery<sup>(5)</sup>. The determinants of post-operative pain are manifold and are related to the procedure, the environment and the patient. With regard to the patient, age, gender, pain threshold, past painful experiences, personality type, and state of anxiety need to be considered<sup>(1)</sup>.

As regards the environment, the lack of adequate information and preparation for surgery by the competent staff can be a source of concern and anxiety, which is negative for the peri-operative outcome<sup>(1,6)</sup>.

The identification of patients most at risk of developing post-operative anxiety, for both individual reasons and reasons relating to the type of pathology and surgery, could facilitate the therapeutic course, through preoperative contacts aimed at providing extensive and reassuring information about the equipment and the professionalism of healthcare professionals, and in select cases, through therapeutic treatments aimed at reducing the level of anxiety. The identification of an "anxious person" already in the pre-operative phase allows for specific pre-anesthesia treatment through the administration of anxiolytics, which at times are also indicated in the post-operative period<sup>(6,9)</sup>.

## Conclusion

The analysis of the results clearly shows how perioperative anxiety is present in all patients, though at different levels. Very low anxiety was never observed in any of the patients examined.

A low level of anxiety was detected in 56.66% of patients under observation, while a moderate level of anxiety requiring minimal sedation was found in 43.34% of the patients in question.

With regard to postoperative pain, a level of moderate-to-severe pain was observed in 50% of patients considered, presenting a high incidence despite analgesia. Therefore, more studies aimed at improving post-operative analgesic strategies are called for.

## References

- 1) Bailey, Laila: *Strategies for Decreasing Patient Anxiety in the Perioperative Setting* AORN Journal Volume: 92, Issue: 4, October, 2010, pp. 445-460.
- 2) Carr, Eloise; Brockbank, Katrina; Allen, Sandra; Strike, Paul: *Patterns and frequency of anxiety in women undergoing gynaecological surgery*, Journal of Clinical Nursing Volume: 15, Issue: 3, March, 2006, 341-352.
- 3) Özgür, E.; Straub, K.; Wille, S.; Engelmann, U.; Dagtekin, O.; Gerbershagen, H.J.: *Impact of preoperative pain on postoperative pain chronification* Der Urologe Volume: 50, Issue: 11, November, 2011, 1396-1402.
- 4) Papaioannou, Marianna; Skapinakis, Petros; Damigos, Dimitris; Mavreas, Venetsanos; Broumas, Georgios; et. al.: *The Role of Catastrophizing in the Prediction of Postoperative Pain* Pain Medicine Volume: 10, Issue: 8, November, 2009, 1452-1459.
- 5) Rotbøll Nielsen, Per; Rudin, Åsa; Werner, Mads U.: *Prediction of postoperative pain* Current Anaesthesia & Critical Care Volume: 18, Issue: 3, 2007.

- 6) Savoia G, Alampi D, Amante A. B, Ambrosio F, Arcioni R, Berti M, BettelliG, Bertini L, Bosco M, Casati A, Castelletti I, Carassiti M, Coluzzi F, Costantini A, Danelli G, Evangelista M, Finco G, Coluzzi F, Gatti A, Gravino E, Launo C, Loreto M, Mediat R, Mokini Z, Mondell E, Palermo S, Paoletti F, Paolicchi A, Petrini F, Piacevoli Q, Rizza A, Sabato A.F, Santangelo E: *SIAARTI Recommendations for the Treatmentn of Postoperative Pain* - Seers, Kate; Crichton, Nicola; Tutton, Liz; Smith, Lisa; Saunders, Teresa Effectiveness of relaxation for postoperative pain and anxiety: randomized controlled trial Journal of Advanced Nursing Volume: 62, Issue: 6, June, 2008, 681-688.
- 7) Terry, Rohini; Niven, Catherine; Brodie, Eric; Jones, Ray; Prowse, Morag: *An exploration of the relationship between anxiety, expectations and memory for postoperative pain* Acute Pain Volume: 9, Issue: 3, September, 2007, 135-143.
- 8) Valencia, Carolina; Fillingim, Roger B.; George, Steven Z.: *Suprathreshold Heat Pain Response Is Associated With Clinical Pain Intensity for Patients With Shoulder Pain* Journal of Pain Volume: 12, Issue: 1, January, 2011, 133-140.
- 9) Vaughn, Felicia; Wichowski, Harriet; Bosworth, Gerry: *Does Preoperative Anxiety Level Predict Postoperative Pain?* AORN Journal Volume: 85, Issue: 3, March, 2007, 589-594, 597-604, C:\Documents and Settings\paolella\Desktop\ansia periop\\_themes\semplice\anetrule.gif, C:\Documents and Settings\paolella\Desktop\ansia periop\\_themes\semplice\anetrule.gif

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