Minimizing short-term complications in patients who have undergone cardiac invasive procedure: a randomized controlled trial involving position change and sandbag

Kardiyak invazif girişim yapılan hastalarda kısa dönem komplikasyonları azaltma: Kum torbası ve pozisyon değişikliğini içeren randomize kontrollü bir çalışma

Dear Editor,

An interesting study conducted by Yilmaz et al. (1) was published in one of the recent issues of the Anatolian Journal of Cardiology. This study evaluated the effects of placing a sandbag on puncture site and changing position in bed on vascular complications and back pain intensity in patients after a cardiac invasive procedure. Though it was a complex design with five groups of patients included, the presentation was clear and easy to follow.

This well written article attracted the attention of international readers not only because of the study results but also the detail presentation of the study intervention protocols. The clear definition of significant bleeding and hematoma formation together with pain evaluation using the visual analogue scale ensured the validity and reliability of the study outcome measures. Comparison of results indicated sandbag application at the puncture site did not reduce vascular complications and changing position in bed did not increase vascular complications. These important findings build the foundation knowledge to modify the existing protocols worldwide. In addition, the comparison of the five groups on back pain changes across the five time intervals provided solid evidence that changing positions in bed during the bed rest period would increase patient comfort by reducing back pain intensity. Moreover, the authors compared pain perception between Chinese and Turkish highlighted the importance of cultural influences in patient outcomes and making this paper even more interesting to international readers.

In this study, the result was not significant between sandbag group (group 1, 2, 3, and 4) and the non-sandbag group (group 5) on vascular complications that created no further questions. However, if this result was significant, the existing analysis would not be able to tell whether the weight of the sandbag or the duration of sandbag application produced the effect since the author put the two variables together in analysis. In addition, the mean back pain values of each group at each assessment time interval were provided in Table 4. In VAS 0, there was a significant difference among the five groups (p= 0.03). However, this result was questionable because almost all patients experienced no pain (mean= 0) except the ones in group 1 who experienced very minimal pain (mean= 0.11).

Coronary angiography or cardiac catheterization has been widely used for diagnosis and evaluation of cardiac conditions worldwide. Minimizing complications and promoting comfort in patients after a cardiac invasive procedure has always been the focus of care concerned by cardiac nurses as well as interventional cardiologists. This study results contributed to the database which will inform the post coronary angiography or cardiac catheterization protocol by clarifying the misunderstandings about sandbag applications and changing positions after such procedure. The result of this study carries a great value of implication for practice.

Sek Ying Chair
The Nethersole School of Nursing,
The Chinese University of Hong Kong, Hong Kong, China

Reference

1. Yılmaz E, Gürgün C, Dramalı A. Minimizing short-term complications in patients who have undergone cardiac invasive procedure: a randomized controlled trial involving position change and sandbag. Anadolu Kardiyol Derg 2007; 7: 390-6.

Address for Correspondence/Yazışma Adresi:
Sek Ying Chair RN, MBA, PhD, Associate Professor,
The Nethersole School of Nursing, The Chinese University of Hong Kong,
Hong Kong, China Phone: 852-2609-6225 E-mail: sychair@cuhk.edu.hk

Author Reply

Dear Editor,

We thank the author of the letter for interest and comments on our study, and would like to clarify some points of the study.

Our results, represented in Table 4 and last paragraph of the Results section, showed that there were no differences between sandbag only application for 30 minutes (group 3) and no sandbag, no position change group (group 5), as well as sandbag application for 2 hours (group 4) and no sandbag, no position change group (group 5), which in fact testifies that application of only sandbag and duration of sandbag application do not affect visual analogue scale (VAS) scores.

However, when both sandbag and position changes were applied together, differing only by duration of sandbag application (Group 1 and Group 2) were compared with control group (no sandbag, no position change - group 5), there were significant differences (p=0.0001) in VAS scores (see Table 4 in manuscript). This allows us to conclude that only combination of sandbag application, independently of duration, and position change effectively reduced the VAS scores as compared with controls (Group 5).

For the between-subjects factor of group, there was an overall difference among the groups ($p< 0.05$). Analysis of the interaction among groups and time showed that VAS values the five time periods differed significantly among the groups ($p < 0.05$). To show the groups difference at each of the five pain assessment time periods one way ANOVA were used. Tukey HSD was applied to determine the new level of significance, which was set at $\alpha = 0.001$. The values of VAS at 0 h among groups were statistically significantly different according to one way ANOVA, but these values of VAS weren't statistically significantly different according to Tukey HSD. Except for the time immediately after the procedure (0 h), VAS scores were statistically significantly different among the groups at the other four time periods (Table 4). Table 4 gives the mean levels of back pain for five groups at the five time periods and shows that, the minimum back pain levels were determined immediately after the procedure (0 h) due to remaining of patients in the same position for a short time.

Emel Yılmaz
School of Nursing, Celal Bayar University, Manisa, Turkey