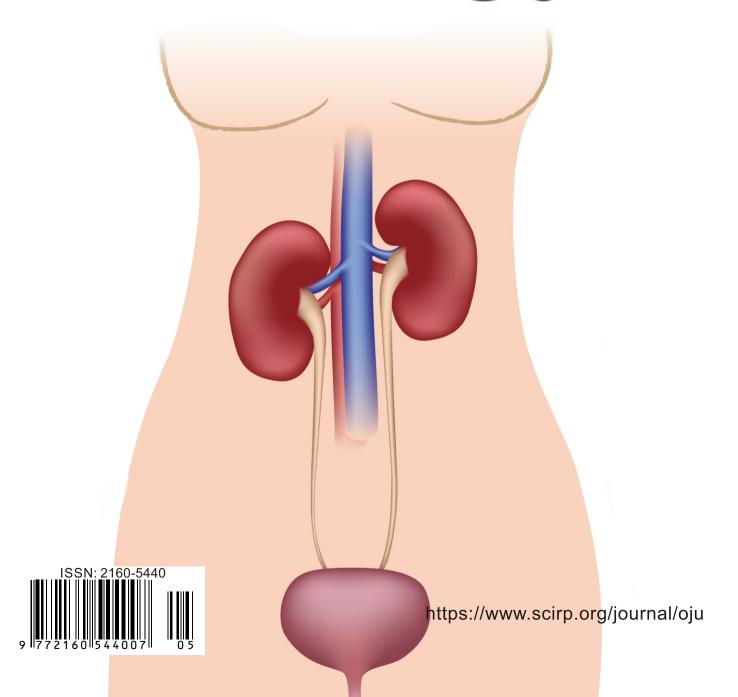


Open Journal of Urology



Journal Editorial Board

ISSN 2160-5440 (Print) ISSN 2160-5629 (Online)

https://www.scirp.org/journal/oju

.....

Editor-in-Chief

Dr. Phillip Mucksavage University of Pennsylvania, USA

Executive Editor-in-Chief

Dr. Robert Daniel Moore Atlanta Center for Laparoscopic Urogynecology, USA

Editorial Board

Prof. Hideyuki Akaza The University of Tokyo, Japan

Dr. Daniele Amparore University of Turin, Italy

Dr. Hemant Kumar Bid The Research Institute at Nationwide Children's Hospital, USA

Prof. Alessandro Calisti San Camillo Hospital of Rome, Italy

Prof. Sung-Goo Chang Kyung Hee University Medical Center, South Korea

Prof. Piergiuseppe Colombo University of Milan, Italy

Dr. Xiao Gu Le Bonheur Children's Medical Center, USA

Prof. Samy L Habib The University of Texas Health Science Center at San Antonio, USA

Prof. Sarel HalachmiIsrael Institute of Technology, IsraelProf. Kyu-Sung LeeSungkyunkwan University, South Korea

Prof. Yuanyuan Liang University of Texas Health Science Center at San Antonio, USA

Dr. Bashir A. Lwaleed Istanbul University, Turkey

Prof. Evangelos M. Mazaris St. Mary's and Charing Cross Hospital, Greece

Dr. Chong-Xian Pan University of California Davis Cancer Center, USA

Prof. Jose Enrique Robles University of Navarra, Spain

Prof. Charles Joel Rosser University of Central Florida, USA

Dr. Di Francesco Simona People's University Nicolaus Copernicus, Italy

Dr. Scott W. Smilen New York University, USA

Prof. Dingwei Ye Fudan University Cancer Hospital, China

Prof. Stanley Zaslau West Virginia University, USA



ISSN Online: 2160-5629 ISSN Print: 2160-5440

Table of Contents

| Volume 11 | Number 5 | May 2021 |
|--------------------|--|----------|
| Study on the Effec | ct of Canceling Hard Bed on Patients after Renal Needle Bi | opsy |
| X. M. Zou, Y. Z. H | Juang, F. N. Liu, Y. Chen, Y. X. Zhong | 177 |

Open Journal of Urology (OJU)

Journal Information

SUBSCRIPTIONS

The *Open Journal of Urology* (Online at Scientific Research Publishing, https://www.scirp.org/) is published monthly by Scientific Research Publishing, Inc., USA.

Subscription rates:

Print: \$79 per issue.

To subscribe, please contact Journals Subscriptions Department, E-mail: sub@scirp.org

SERVICES

Advertisements

Advertisement Sales Department, E-mail: service@scirp.org

Reprints (minimum quantity 100 copies)

Reprints Co-ordinator, Scientific Research Publishing, Inc., USA.

E-mail: sub@scirp.org

COPYRIGHT

Copyright and reuse rights for the front matter of the journal:

Copyright © 2021 by Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY).

http://creativecommons.org/licenses/by/4.0/

Copyright for individual papers of the journal:

Copyright © 2021 by author(s) and Scientific Research Publishing Inc.

Reuse rights for individual papers:

Note: At SCIRP authors can choose between CC BY and CC BY-NC. Please consult each paper for its reuse rights.

Disclaimer of liability

Statements and opinions expressed in the articles and communications are those of the individual contributors and not the statements and opinion of Scientific Research Publishing, Inc. We assume no responsibility or liability for any damage or injury to persons or property arising out of the use of any materials, instructions, methods or ideas contained herein. We expressly disclaim any implied warranties of merchantability or fitness for a particular purpose. If expert assistance is required, the services of a competent professional person should be sought.

PRODUCTION INFORMATION

For manuscripts that have been accepted for publication, please contact:

E-mail: oju@scirp.org



ISSN Online: 2160-5629 ISSN Print: 2160-5440

Study on the Effect of Canceling Hard Bed on Patients after Renal Needle Biopsy

Xiaomin Zou*, Yingzi Huang*, Fanna Liu, Yu Chen#, Yingxue Zhong#

Department of Nephrology, The First Affiliated Hospital of Jinan University, Guangzhou, China Email: *272171384@qq.com

How to cite this paper: Zou, X.M., Huang, Y.Z., Liu, F.N., Chen, Y. and Zhong, Y.X. (2021) Study on the Effect of Canceling Hard Bed on Patients after Renal Needle Biopsy. *Open Journal of Urology*, **11**, 177-186. https://doi.org/10.4236/oju.2021.115016

Received: March 18, 2021 Accepted: May 28, 2021 Published: May 31, 2021

Copyright © 2021 by author(s) and Scientific Research Publishing Inc. This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

http://creativecommons.org/licenses/by/4.0/





Abstract

Objective: To investigate the effect of hard bed on postoperative complications and comfort level of patients after renal puncture biopsy. Methods: A total of 115 patients who underwent renal needle biopsy in the Department of Nephrology of The First Affiliated Hospital of Jinan University from May 2020 to February 2021 were selected, and 57 patients who received hard bed nursing after renal needle biopsy were set as the control group, the others were selected as the observation group. The incidence of postoperative bleeding at the puncture mouth, gross hematuria and dysuria, as well as the postoperative comfort level of 6 h and 18 h were compared between the two groups. Results: There was no significant difference in the incidence of postoperative bleeding, gross hematuria and dysuria between the two groups (P> 0.05), but the comfort scores at 6 h and 18 h in the observation group were higher than those in the control group (P < 0.05). Conclusion: There is no significant difference in the incidence of postoperative complications, such as bleeding at the puncture mouth, gross hematuria and dysuria, among patients with renal needle biopsy, whether to use hard bed nursing or not. Eliminate hard bed nursing can improve the comfort level of patients, reduce the occurrence of pressure ulcers, and relieve the negative psychological emotions of patients.

Keywords

Hard Bed, Renal Puncture Biopsy, Postoperative Complications

1. Introduction

In recent years, chronic kidney disease has become one of the serious public health problems worldwide [1]. Renal needle biopsy is one of the effective ex-

^{*}Co-first author.

^{*}Corresponding author.

amination means for the diagnosis of a variety of renal diseases, and can guide the treatment and determine the prognosis. However, as an invasive operation, postoperative complications such as puncture bleeding, infection, gross hematuria, and dysuria are prone to occur [2] [3] [4]. In order to reduce postoperative bleeding and other complications, traditional postoperative nursing requires patients to rest on a hard bed for 24 h [5] [6]. Long time immobilization on a hard bed will cause pain in the patient's back, and make the patients uncomfortable [7]. With the improvement of renal puncture technology, the nursing mode to postoperative patients has also changed. Present, several literatures have reported that nursing after renal needle biopsy no longer strictly requires immobilization on a hard bed, and the immobilization time and position have also been adjusted [8] [9] [10]. Previous studies have conducted a series of beneficial explorations on the time and body position of immobilization, but the effects of not using hard bed nursing are not reported yet [11]. This paper aims to explore the effects of not using hard bed nursing on postoperative complications and comfort of patients with renal needle biopsy through a comparative study.

2. Materials and Methods

2.1. General Information

The subjects of this study were patients who underwent renal needle biopsy in the First Affiliated Hospital of Jinan University from May 2020 to February 2021. Inclusion criteria: patients without contraindications to renal biopsy, who were clearly diagnosed by renal biopsy, clearly aware, willing to cooperate with the questionnaire, and signed the informed consent. Exclusion criteria: severe coagulation dysfunction or bleeding tendency, kidney tumor patients, or patients with severe ascites or hydronephrosis, mental abnormalities, and heart failure.

According to the order of admission, 57 patients with renal needle biopsy from May 2020 to September 2020 were set as the control group, and 58 patients from October 2020 to February 2021 were set as the observation group. The difference between the two groups was that no hard bed was used in the observation group. There are 27 males and 30 females in the control group. Their age composition is as follows: 30 patients are younger than 40 years old, 24 cases are between 40 and 65 years old, and 3 cases are older than 65 years old. Education degree: 9 cases are primary school or below, 24 cases are middle school or technical secondary school, 24 cases were junior college or above. The length of hospitalization of patients ranged from 4 to 40 days, with an average of 14.8 days. The prothrombin time of patients ranged from 11.8 to 15.2 seconds, with an average of 13.06 seconds, and the thrombin time ranged from 14.8 to 22.5 seconds, with an average of 17.98 seconds. The observation group has 29 males and 29 females. Their age composition is as follows: 20 cases are younger than 40 years old, 32 cases are between 40 and 65 years old, and 6 cases are older than 65 years old. Education degree: 20 cases are primary school or below, 19 cases are middle school or technical secondary school, 19 cases were junior college or above. The length of hospitalization ranged from 4 to 54 days, with an average of 13.5 days. The prothrombin time of patients ranged from 11.8 to 16.0 seconds, with an average of 13.22 seconds, and the thrombin time ranged from 13.0 to 21.0 seconds, with an average of 17.55 seconds. There is no significant difference in general data between the two groups (Table 1, Table 2).

2.2. Methods

2.2.1. Preoperative Preparation

Preoperatively instruct patients to practice defecation and urination on the bed, inhale and close breath, instruct patients not to eat blood-activating food such as *Angelica sinensis* and *Codonopsis pilosula*, and nursing fully check whether patients are using anticoagulant drugs, and remind doctors to postpone the puncture if there is.

2.2.2. Intraoperative Nursing

During the operation, assist patients in the prone position, with a hard pillow on the lower abdomen, conventional disinfection and towel laying, local infiltration anesthesia with 2% lidocaine, one-time biopsy needles were used to puncture the

Table 1. Comparison of general data of patients (%).

| Items | Control group $(n = 57)$ | Observation group (n = 58) | χ^2 | P |
|---|--------------------------|----------------------------|----------|-------|
| Gender | | | 0.080 | 0.778 |
| male | 27 (47.4) | 29 (50) | | |
| female | 30 (52.6) | 29 (50) | | |
| Age/year | | | | |
| <40 | 30 (52.6) | 20 (34.5) | 4.134 | 0.127 |
| 40 - 65 | 24 (42.1) | 32 (55.2) | | |
| >65 | 3 (5.3) | 6 (10.3) | | |
| Education degree | | | 5.327 | 0.070 |
| Primary School or Below | 9 (15.8) | 20 (34.5) | | |
| Middle school or technical secondary school | 24 (42.1) | 19 (32.8) | | |
| College degree or above | 24 (42.1) | 19 (32.8) | | |

Table 2. Comparison of general data of patients (mean \pm SD).

| Group | Number | Hospitalization days | Prothrombin time (seconds) | Thrombin time (seconds) |
|-------------------|--------|----------------------|----------------------------|-------------------------|
| Control group | 57 | 14.80 ± 8.23 | 13.06 ± 0.68 | 17.98 ± 1.73 |
| Observation group | 58 | 13.55 ± 8.13 | 13.22 ± 0.72 | 17.55 ± 1.65 |
| t | | 0.823 | 1.18 | 1.372 |
| P | | 0.412 | 0.241 | 0.173 |
| | | 0.412 | 0.241 | 0.173 |

lower pole cortex of the kidney twice successively under the supervision of color ultrasound, and two renal tissues were taken for pathology.

2.2.3. Postoperative Nursing

Assist the patient to shift over the bed, and instruct the patient to lie in bed for 24 hours. During the first 6 hours, the patient was absolutely supine, and the patient was instructed to perform upper limb exercises and ankle pump exercises to prevent deep vein thrombosis, and the patient was told to avoid lumbar exertion. The patients were given ECG monitoring and blood oxygen saturation monitoring for 6 h. At the same time, the patients were told to drink more water appropriately and not to eat blood-promoting food. The control group was given absolute supine on hard bed for 6 hours after operation.

The postoperative urine color of the patients was observed (1 cup was kept for each of the first 3 urinations for comparative observation). Abnormal conditions such as bleeding from dressing and lumbago were observed in each shift for three consecutive days. Keep nursing records, and report to the doctor in time if the above cases occur. Observe the bleeding situation of the puncture mouth of the patient 6 h and 18 h after surgery, and give the patient a General Comfort Questionnaire [12].

2.3. Observation and Evaluation Criteria

2.3.1. Postoperative Gross Hematuria, Extravasation of Blood from Puncture Mouth and Dysuria

After the patients were sent back to the ward after surgery, they were given 3 white urine cups and urine was collected for 3 consecutive times. The patients were observed and recorded whether there was gross hematuria or not. The bleeding situation of the puncture dressing was observed for three days after operation, and detailed records were made. The occurrence of dysuria was determined by whether the patient had indwelling catheter after surgery.

2.3.2. Comfort Level at 6 h and 18 h after Surgery

The postoperative comfort of patients was assessed by using the simplified comfort status scale developed by American comfort nursing expert Kolcaba. In order not to affect patients' rest, a comfort questionnaire was conducted at 6 h and 18 h after the puncture. The scale contains a total of four dimensions of physiology, psychology, spirit, social culture and environment, with a total of twenty-eight items, including five items in the physiological dimension, ten items in the mental and spiritual dimension, six items in the social dimension, and seven items in the environmental dimension. Using Likert four-level scoring method, one point means very disagree, four points means very agree, the higher the score, the more comfortable.

2.4. Statistical Methods

The SPSS21.0 statistical software was used to conduct statistical processing on the data. Count data were represented as cases and percentages, and chi-square test was adopted. Measurement data was expressed by mean values plus standard deviation, and T-test was adopted. The difference was statistically significant with P < 0.05.

3. Results

3.1. Comparison of Postoperative Gross Hematuria, Puncture Port Bleeding and Dysuria in the Two Groups

After renal biopsy, the control group and the observation group did not show statistical differences in postoperative complications such as gross hematuria, bleeding from the puncture port and dysuria (P > 0.05) (Table 3).

3.2. Comparison of Comfort Scores between the Two Groups of Patients at 6 h and 18 h after Surgery

The comfort scores of the observation group at 6 h and 18 h after surgery were significantly higher than those of the control group, and the difference was statistically significant (P < 0.01) (Table 4).

4. Discussion

Renal needle biopsy is one of the most important clinical means for the diagnosis, treatment and prognosis judgment of kidney diseases. However, as an invasive operation, it is often accompanied by various postoperative complications, postoperative nursing if it is not in place, will increase the suffering of patients and affect the prognosis. With the increasingly mature and widespread development of renal puncture technology, how to reduce and alleviate postoperative complications and discomfort of patients has become a concern of clinical nursing. In order to reduce the occurrence of complications such as bleeding, the early

Table 3. Comparison of postoperative gross hematuria, puncture port bleeding and dysuria between the two groups (%).

| Group | Number | Gross hematuria | Puncture port bleeding | Dysuria |
|-------------------|--------|-----------------|------------------------|----------|
| Control group | 57 | 7 (12.3) | 5 (8.8) | 6 (10.5) |
| Observation group | 58 | 4 (6.9) | 4 (6.9) | 8 (13.8) |
| χ^2 | | 0.963 | 0.14 | 0.287 |
| P | | 0.326 | 0.978 | 0.592 |

Table 4. Comparison of postoperative comfort scores at 6 h and 18 h between the two groups (mean \pm SD).

| Number | 6 h | 18 h |
|--------|------------------|--|
| 57 | 73.23 ± 3.82 | 74.44 ± 4.46 |
| 58 | 80.60 ± 3.06 | 80.81 ± 4.35 |
| | 11.424 | 7.752 |
| | <0.01 | <0.01 |
| | 57 | 57 73.23 ± 3.82 58 80.60 ± 3.06 11.424 |

nursing after renal biopsy usually binds bellyband and requires the patient to lie supine on a hard bed for 6 hours and absolutely rest in bed for 24 hours, which brings discomfort to the patient. This nursing process is a summary of predecessors' clinical medical nursing experience and its actual nursing effect lacks relevant evidence-based basis [13] [14]. At present, there have been reports of renal biopsy in foreign countries that patients do not need too much activity restriction and professional nursing after surgery [15] [16]. Therefore, many domestic studies have carried out new explorations on the traditional postoperative nursing methods of binding abdominal band and immobilization in bed for 24 hours after operation. Bao *et al.* [17] and Mo *et al.* [4] believe that the removal of abdominal band binding has little effect on the occurrence of complications after renal biopsy, but it can improve the comfort of patients. The study by Zhao *et al.* [18] confirmed that the bed rest time for renal puncture was shortened from the conventional 24 h to 12 h - 15 h, which would not increase complications and could relieve patients' discomfort.

At present, although the use of hard bed is no longer strictly required for postoperative nursing of renal needle biopsy, there are few literatures to confirm the effect of not using hard bed nursing after surgery.

At present, although the nursing after renal biopsy is no longer rigidly required to use a hard bed, there are few confirmed literatures on the impact of not using a hard bed nursing after the operation. Through detailed comparative study, this paper draws the following conclusions.

4.1. The Absence of Hard Bed Nursing after Renal Needle Biopsy Will Not Increase the Postoperative Complications of the Patient

The results of this study showed that there was no statistically significant difference between the two groups in the occurrence of postoperative gross hematuria and bleeding from the puncture port after surgery (P > 0.05). It shows that canceling the use of hard bed in the nursing process after renal puncture will not increase the postoperative hemorrhagic complications. The reason may be that the location of the kidney is deep, and the hard bed has limited effect on the compression and hemostasis. Even if it is cancelled, it will not cause obvious bleeding at the puncture port.

For patients who are bedridden for a long time, their physiological needs for urination are affected, and some patients may have dysuria, but the occurrence of dysuria is mainly related to a variety of factors such as bedridden position, environment, pain and tension [19]. In this study, there was no statistical difference in the incidence of dysuria between the two groups, indicating that the absence of a hard bed nursing will not affect dysuria in patients.

4.2. The Postoperative Comfort of Patients Is Improved by Not Using Hard Bed Nursing

The long-term use of hard bed after surgery will lead to patients' back discom-

fort, pressure sores, and increase the discomfort of patients. The discomfort further causes patients' fear of renal puncture, affects postoperative recovery and increases the difficulty of clinical nursing. Therefore, nurses need to pay attention to the patient's condition in clinical nursing, and maximize the patient's comfort experience when the condition permits. The results of this study showed that the comfort level questionnaire scores of the observation group at 6 h and 18 h after surgery were significantly higher than those of the control group, and the differences were statistically significant (P < 0.01), indicating that the not using a hard bed can improve the comfort of patients after renal needle biopsy.

5. Conclusion

In summary, the non-use of hard bed in routine nursing after renal needle biopsy has no significant effect on postoperative complications such as bleeding at the puncture port, gross hematuria, dysuria, etc., and can improve the postoperative comfort of patients, which provides a reference for whether to use hard bed nursing after renal biopsy. However, the sample size of this study is small. In the follow-up study, the sample size will be increased and more possible influencing factors will be included for further research.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

- [1] Wang, J., Xie, X.D., Huang, J., Liu, C.B., Liu, S.S., Sun, F. and Yue, P. (2015) Qualitative Study of the Inner Experience of Nephropathy Patients Underwent Renal Puncture. *Nursing Journal of Chinese People's Liberation Army*, **32**, 20-23.
- [2] Li, Y.Z. and Wu, Q. (2021) Effect of Meticulous Nursing Intervention on Postoperative Comfort and Complications of Renal Aspiration Biopsy Patients. *Journal of Clinical Medical Research and Practice*, **6**, 176-178.
- [3] Li, S.F. and Li, W.J. (2020) Analysis of Influencing Factors of Local Hematoma Formation after Renal Biopsy Guided by Ultrasound. *Journal of Imaging Research and Medical Applications*, **4**, 25-27.
- [4] Mo, Y.W., Chen, W.H. and Xu, J. (2020) Effects of Abolishing Abdominal Band Application on Safety and Comfort of Patients after Renal Needle Biopsy. *Journal of Nurses Training*, **35**, 1503-1505.
- [5] Hu, Z.H. (2002) Nursing Experience of Patients Undergoing Renal Biopsy. *Acta Medicinae Sinica*, **15**, 600-601.
- [6] Chen, Y.M. (2011) Clinical Nursing Care of 33 Cases of Renal Biopsy Guided by Color B Ultrasound. *Journal of Qilu Nursing*, 17, 91-92.
- [7] Li, L.S. and Liu, Z.H. (2008) Chinese Nephrology. People's Military Medical Press, Beijing, 145.
- [8] Song, L.M. and Wang, L.P. (2017) Analysis of Causes of Urinary Retention after Renal Puncture and Nursing Improvement. *China Medicine and Pharmacy*, 7,

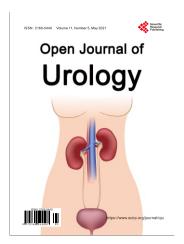
- 166-168.
- [9] Xiong, S., Li, H.Q. and Ke, C.Y. (2017) Application of Standardized Nursing in Patients Undergoing Renal Biopsy. *Journal of Clinic Nursing's Practicality*, **34**, 38-45.
- [10] Liang, X.L. (2017) Perioperative Nursing Experience of Renal Biopsy under Ultrasound Guidance. *Journal of Practical Medicine Techniques*, **24**, 117-118.
- [11] Pan, L.Y. and Lv, G.L. (2012) Research Progress on Bed Time and Position of Patients after Undergoing Renal Puncture Biopsy. *Chinese Nursing Research*, **26**, 1161-1162.
- [12] Kolcaba, K. (1992) Holistic Comfort: Operationalizing the Construct as a Nurse Sensitive Outcome. Advances in Nursing Science, 15, 1-10. https://doi.org/10.1097/00012272-199209000-00003
- [13] Qian, L.P. (2013) Nursing Experience of Renal Biopsy. *Journal of Nurses Training*, **28**, 144-145.
- [14] Ren, Q.F., Hu, H.Y., Xu, Y.M., Guo, B.Q., Zhang, Y.L. and Zhang, W. (2011) Nursing Care of 56 Patients Undergoing B-Type Ultrasound-Guided Percutaneous Renal Biopsy. *Chinese Journal of General Practice*, **9**, 1151-1152.
- [15] Gong, J.L., Wang, L.Y., Wu, H.X. and Fan, J.J. (2017) Application of Clustered Nursing Intervention in Patients Undergoing Renal Biopsy. *Chinese General Practice Nursing*, 15, 4162-4164.
- [16] Su, W.Q. (2012) Nursing Progress of Complications after Renal Biopsy. *Chinese Journal of Clinical Rational Drug Use*, **5**, 168-170.
- [17] Bao, Y., Wen, Y.Q. and Zhu, Y.L.(2007) Clinical Study on Whether to Tie up the Abdominal Band after Renal Biopsy. *Sichuan Medical Journal*, **28**, 333-334.
- [18] Zhao, C., Chen, Z.R. and Yang, Z.H. (2004) The Clinical Significance of Shortening the Time in Bed after Ultrasound-Guided Automatic Renal Biopsy. *Guangxi Medical Journal*, **26**, 500-501.
- [19] Gong, D.Y. and Fan, R. (2009) Cause Analysis and Nursing Progress of Patients with Urine Retention after Renal Biopsy. *Nursing Journal of Chinese People's Liberation Army*, **26**, 238-239.

Supplementary

Comfort score sheet of the control group and observation group at 6 h and 18 h

| Control group (6 h) | Observation group (6 h) | Control group (18 h) | Observation group (18 h |
|---------------------|-------------------------|----------------------|-------------------------|
| 69 | 83 | 73 | 85 |
| 68 | 82 | 79 | 84 |
| 78 | 81 | 75 | 79 |
| 77 | 81 | 74 | 84 |
| 76 | 83 | 73 | 83 |
| 79 | 79 | 79 | 79 |
| 74 | 76 | 78 | 76 |
| 73 | 75 | 80 | 81 |
| 77 | 83 | 74 | 82 |
| 71 | 85 | 71 | 86 |
| 70 | 78 | 78 | 84 |
| 81 | 79 | 84 | 80 |
| 80 | 82 | 75 | 77 |
| 82 | 81 | 79 | 78 |
| 73 | 84 | 83 | 85 |
| 76 | 76 | 70 | 73 |
| 75 | 80 | 78 | 84 |
| 76 | 77 | 77 | 84 |
| 79 | 81 | 83 | 83 |
| 72 | 81 | 71 | 80 |
| 73 | 83 | 74 | 82 |
| 70 | 82 | 79 | 77 |
| 75 | 85 | 77 | 79 |
| 74 | 83 | 71 | 76 |
| 71 | 76 | 73 | 76 |
| 77 | 80 | 84 | 77 |
| 73 | 81 | 69 | 82 |
| 80 | 83 | 74 | 85 |
| 76 | 82 | 70 | 87 |
| 73 | 84 | 76 | 83 |
| 73 | 83 | 74 | 81 |
| 70 | 82 | 75 | 80 |
| 68 | 81 | 77 | 85 |
| 69 | 73 | 70 | 76 |
| 67 | 76 | 82 | 78 |

| Continued | | | |
|-----------|----|----|----|
| 73 | 79 | 70 | 73 |
| 76 | 75 | 69 | 78 |
| 71 | 75 | 68 | 77 |
| 75 | 76 | 69 | 70 |
| 76 | 83 | 70 | 87 |
| 73 | 81 | 71 | 78 |
| 73 | 83 | 72 | 76 |
| 76 | 81 | 75 | 76 |
| 74 | 82 | 73 | 71 |
| 71 | 81 | 74 | 75 |
| 72 | 83 | 82 | 85 |
| 71 | 84 | 80 | 84 |
| 70 | 80 | 76 | 79 |
| 73 | 76 | 73 | 85 |
| 69 | 79 | 69 | 87 |
| 63 | 79 | 70 | 86 |
| 67 | 78 | 71 | 87 |
| 69 | 81 | 73 | 83 |
| 73 | 83 | 73 | 83 |
| 70 | 82 | 68 | 84 |
| 73 | 83 | 68 | 80 |
| 71 | 88 | 70 | 87 |
| | 82 | | 85 |



Open Journal of Urology (OJU)

ISSN 2160-5440 (Print) ISSN 2160-5629 (Online) https://www.scirp.org/journal/oju

Open Journal of Urology (OJU) is an international journal dedicated to the latest advancement of urology. The goal of this journal is to provide a platform for researchers and academics all over the world to promote, share, and discuss various new issues and developments in urology related problems. All manuscripts must be prepared in English, and are subject to a rigorous and fair peer-review process. Accepted papers will immediately appear online followed by printed hard copy.

Subject Coverage

The journal publishes original papers including but not limited to the following fields:

- Female Pelvic Medicine and Reconstructive Surgery
- General Urology
- Male and Female Sexual Dysfunction
- Pediatric Urology
- Reconstructive Urology
- Stone Disease
- Urinary Physiology
- Urodynamics and Neurourology
- Urologic Oncology

We are also interested in: 1) Short reports—2-5 page papers where an author can either present an idea with theoretical background but has not yet completed the research needed for a complete paper or preliminary data; 2) Book reviews—Comments and critiques.

Notes for Intending Authors

Submitted papers should not have been previously published nor be currently under consideration for publication elsewhere. Paper submission will be handled electronically through the website. All papers are refereed through a peer review process. For more details about the submissions, please access the website.

Website and E-Mail

https://www.scirp.org/journal/oju E-mail: oju@scirp.org

What is SCIRP?

Scientific Research Publishing (SCIRP) is one of the largest Open Access journal publishers. It is currently publishing more than 200 open access, online, peer-reviewed journals covering a wide range of academic disciplines. SCIRP serves the worldwide academic communities and contributes to the progress and application of science with its publication.

What is Open Access?

All original research papers published by SCIRP are made freely and permanently accessible online immediately upon publication. To be able to provide open access journals, SCIRP defrays operation costs from authors and subscription charges only for its printed version. Open access publishing allows an immediate, worldwide, barrier-free, open access to the full text of research papers, which is in the best interests of the scientific community.

- High visibility for maximum global exposure with open access publishing model
- Rigorous peer review of research papers
- Prompt faster publication with less cost
- Guaranteed targeted, multidisciplinary audience





Website: https://www.scirp.org Subscription: sub@scirp.org Advertisement: service@scirp.org