Scholar Publishing Group
International Journal of Health and Pharmaceutical Medicine
https://doi.org/10.38007/IJHPM.2020.010104
ISSN 2789-8393 Vol. 1, Issue 1: 38-49

Incomplete Ischemia-reperfusion on Skin Pressure Sores in Rats and Its Mechanism

Quella Fernando

Simon Fraser University, Canada

Keywords: Incomplete Ischemia-Reperfusion, Long Term Bedridden Patients, Pressure Sores on Skin Contact Surface, Preventive Care

Abstract: Pressure ulcers are called "bed sores" in the field of traditional Chinese medicine. Long-term bedridden, especially the elderly lying passively, are prone to cause severe skin contact pressure sores, which seriously affects the quality of life of patients. With the development and development of high-end medical equipment, people can now easily achieve incomplete ischemia-reperfusion, but the role of incomplete ischemia-reperfusion in skin pressure ulcers is not well documented and unclear. In order to investigate the effect and mechanism of incomplete ischemia-reperfusion on skin pressure ulcers in rats, this study set up 2 groups, using a controlled experiment method, randomly divided 120 rats of simulated patients into 2 groups, each group For 60 animals, the experimental group used incomplete ischemia-reperfusion to observe the changes of patients' cells through continuous observation, and gave corresponding plans. The control group used common treatment methods. The results show that incomplete ischemia-reperfusion can aggravate early skin contact surface pressure ulcers in bedridden patients. The detection effective rate is 81.2%, and the incidence of skin contact surface pressure ulcers is 89.31% and 11.27%, respectively. Preventing incomplete ischemia-reperfusion during preventive care of patients can greatly reduce the incidence of pressure ulcers on the skin contact surface and can be popularized and applied.

1. Introduction

With the development and development of high-end medical equipment, incomplete ischemia-reperfusion can now be easily achieved. From the general development of microscope, the structure, function and technology of electron microscope have been continuously improved and improved. The remarkable characteristics are that the magnification is larger and larger and the resolution is higher and higher. The great advantages of microscope in life science research are reflected, The application of microscope technology in the field of medicine can quickly and intuitively understand the characteristics of cell ultrastructure and provide strong help for clinical

diagnosis.

Long term bedridden patients stay in bed for a long time, so the nursing problem is very important. If the nursing method is improper and the skin care is not in place, the local skin is airtight, and then the temperature rise will cause irreversible tissue damage and tissue ulceration and necrosis [1]. Because of the irreversibility and severity of skin contact surface pressure sore, the prevention and nursing of long lying patients is very important [2]. Reflective confocal microscope, one of the high-end medical microscopes, can realize the horizontal imaging of living skin cells. As a long-term and widely used microscope, In the field of skin disease screening and medical cosmetology, but no more literature has been found on the application of pressure sore prevention and nursing. Therefore, from the perspective of prevention and nursing, we study the application of microscope in the prevention and nursing of bedside patients' skin contact pressure sore.

Many scholars have explored the application of microscope, and electron microscope has great potential in research, which is widely used in many research fields such as medicine and life science. Yazici examined the structure and morphology of polymer nanocomposites by using infrared, X-ray diffraction and electron microscope images in order to analyze the influence of natural additives on the processing of nanocomposites and their functional properties. Yazici's research showed that the time required for the composite materials of MK, MKZ, mkzg, OK and okzg to reach adsorption equilibrium and the adsorption capacity in equilibrium state are 170 minutes, 0.36 mg / g; 120 minutes, 0.27 mg / g; 150 minutes, 0.29 mg / g; 130 minutes, 0.30 mg / G and 110 minutes, 0.04 mg / g. His research and application of microscopy technology make nanocomposites promising to become candidate drugs for medical applications [3]. In order to investigate the role of the accurate detection of do on the cell level in the diagnosis and intraoperative observation of many diseases, Lin Y used laser confocal scanning microscope (LCSM) to study the ratio sensing NPs of MCF-7 cells. The results showed that the green fluorescence intensity of C6 was 2096.869, and the red fluorescence intensity of pttfpp was 388.332. Lin Y's research has successfully carried out do sensing based on ratio fluorescence under confocal microscope in simulated environment and cell level. It is proved that the cell magnetic separation function makes the composite material have great potential in the do sensing related medical application, and the microscope he used in his research has a huge application prospect in the related medical field [4].

Sores are called "bed sores" in the field of traditional Chinese medicine. Long-term bedridden, especially elderly people who lie passively, are prone to cause severe skin contact surface pressure sores, which seriously affects the quality of life of patients. In order to explore the skin contact surface pressure of bedridden patients under microscope The application of preventive care for sores, this study uses a controlled experiment method, through the use of reflective confocal microscopy to the experimental group through continuous observation to study the changes in patients' cells to give a corresponding program, proving that the application of the microscope can effectively detect the early skin of patients in bed Dynamic changes of pressure ulcers on the contact surface. This article also introduces a reflective confocal microscope, which shows that the use of microscopic observation methods in the preventive care of long-term patients can greatly reduce the incidence of pressure ulcers on the skin contact surface and can be promoted and applied.

2. Pressure Sore on Contact Surface between Electron Microscope and Skin

2.1. Microscope Medical Applications

(1) Microscope medical cell image processing

Microscope cell image processing is an important research topic in the field of image recognition, involving image processing, pattern recognition, computer vision and other disciplines, and has

wide application value. Previously, charge-coupled device imaging has been used to study certain animal tissue cells [5-6]. One of the optical fiber bundles was used to directly contact live experimental animals with voltage-sensitive dyes to image cortical activity. This method is easy to be limited by the size of the fiber core, and the lower imaging resolution is not good. Although this imaging system cannot achieve cell-level resolution, it allows researchers to obtain high-temporal resolution cortical activation maps. In recent years, multi-photon fluorescence microscope imaging has solved the problem of low resolution [7].

(2) Application of electron microscope

When the optical microscope cannot make a correct diagnosis, the electron microscope has become a good tool to help medical personnel to carry out investigation and diagnosis. In the medical field, people can use electron microscopes, coupled with constantly updated technologies, methods and some auxiliary equipment, to intuitively recognize the pathogens or the lesions that occur after the pathogens act on the body, which improves the accuracy of diagnosis. Specific applications are as follows, gastrointestinal disease diagnosis, cancer diagnosis, viral disease diagnosis and kidney disease diagnosis, etc. [8]. For example, this year's new coronavirus (2019-nCoV) that caused the outbreak was observed through a transmission electron microscope (TEM). The spread of new coronaviruses is getting worse now and the situation is grim. In order to better study the characteristics of the virus, the National Institute of Allergy and Infectious Diseases (NIAID), with the efforts of scientific researchers, this new virus that has caused tens of thousands of people to be infected is gradually the veil is lifted. Compared with other microorganisms, the shape of the virus is extremely small, the diameter is mainly between 10-300nm, the structure is very simple, the virus protein shell contains a set of genetic material nucleic acid, but it is fatal to the immune system. Once the virus leaves the host cell, it will lose vitality and exist as a macromolecule.With the help of a high-magnification electron microscope that can magnify tens of thousands of times, scientists have exposed a series of deadly germs that cannot be seen by the human eye to the true face of Lushan [9].

(3) Electron microscope technology

The application of electron microscope technology in the medical field is mainly closely related to its principle. The electron microscope uses an electron beam as a light source to irradiate a solid material, uses electrons scattered by the electron beam as a signal, and refracts the electron beam as an electric or magnetic field. The centrally symmetric magnetic field, whose imaging properties are similar to the geometric optics of the Gaussian lens, is called a magnetic lens. The magnetic lens can be divided into permanent magnet and electromagnetic according to the magnetic field classification. The huge magnetic lens can be seen as a penetration through the earth along the north and south poles, the focal length of the magnetic lens is fixed; the electromagnetic lens can change the magnetic field strength of the lens by changing the coil current, thereby changing the focal length of the lens. Electron microscopes have opened up new horizons for medical research. It is mainly used for high-resolution imaging of virus and cell surface or internal structure morphology, including transmission electron microscopy, scanning transmission electron microscopy, and scanning electron microscopy. As tools for studying the microscopic world, it has been widely used in many fields. In particular, he has made outstanding contributions in virology, cell biology, histology, pathology and molecular pathology.

2.2. Pressure Sores on Skin Contact Surface

(1) Introduction of pressure ulcers

In clinical work, pressure ulcers are recognized as a common nursing complication. Pressure ulcers are called "bed sores" in the field of traditional Chinese medicine. Long-term bedridden,

especially elderly people who lie passively, are prone to cause severe skin contact pressure sores. Patients in the intensive care unit of the emergency intensive care unit who are bedridden are often in a passive position. Passive turning is a high incidence of pressure ulcers. Because of the long-term compression of the local skin, the heat dissipation is reduced and the local temperature is increased. Studies have shown that irreversible tissue damage can be caused by skin pressure of 9.33kPa for more than 2 hours. Studies have found that the risk factors for pressure ulcers are sliding friction, pressure, moisture, etc. In fact, another important reason for pressure ulcers on the skin contact surface is between the skin the static friction force, in summary, the definition of pressure ulcer is a disease that causes persistent ischemia, hypoxia, and malnutrition in local tissues leading to tissue ulceration and necrosis [10].

(2) Characteristics of pressure ulcer on skin contact surface

Pressure ulcers can easily cause infections. The course of pressure ulcers develops rapidly, is prone to relapse, and can easily cause various infections. For patients with long-term bed rest, the incidence is high, the incidence is rapid, and related problems often occur within a week. As a clinical complication, it is often difficult to cure completely, and it is easy to relapse after cure. Current research shows that pressure sores on the skin contact surface occur seriously Sepsis can lead to death, and the tissue damage caused is irreversible [11].

(3) The harm of pressure ulcers

Severe patients are already very painful. Pressure ulcers increase the suffering of patients, and because of the high cost of treatment, they not only increase the financial burden of society and families, but also prolong the hospitalization of patients. It makes the patient feel uncomfortable such as isolation, fear, anxiety, which reduces the effect of clinical care, prolongs the recovery time of the patient, and seriously affects the patient's quality of life. The diagnosis and treatment of primary diseases are also affected. If pressure ulcers are not treated well, the mortality rate will increase by a factor of six. ICU patients have the characteristics of critical illness, prolonged bed time approximately 5-10 weeks, being in a stressed state, and destroying the stability of the internal environment. According to reports, the incidence of pressure ulcers is as high as 45.5%. It can be seen that in clinical practice, it is very important to effectively prevent the occurrence of pressure ulcers in severely ill and bedridden elderly patients.

(4) Treatment of pressure sore

The skin care method of reducing the skin wrinkles, the static friction of the skin contact surface at the angle between the limb and the trunk, and the humidity has better effect. Generally, turning over every two hours can reduce the incidence of pressure sores, but it brings many new difficulties to nursing, such as pressure sores caused by operation time more than 2 hours, future turning over and so on when patients with chronic consumptive diseases lie in bed at home unattended or due to nursing negligence. Of course, air bed, soft silicone foam dressing, partial decompression pad and other decompression devices give us convenience to care for patients with pressure sore, but it is impossible to avoid the occurrence of pressure sore completely. The suspension bed used in the treatment of large area burn patients can be used to treat pressure sore patients, but the treatment cost is high, the general family cannot afford high medical costs. The treatment of wounds includes the removal of necrotic substances, the covering of wounds and the use of drugs on wounds. For the removal of necrotic substances on the wound surface, the medicine for dissolving scabs, such as silver zinc cream, enzyme, etc., or the Chinese medicine for Removing Putrefaction and generating muscles, such as Shengji Yuhong ointment, etc., are usually used for conservative treatment. Some studies have shown that in this humid environment, it is easy to form a local hypoxia environment, thus stimulating the growth of fibroblasts and the formation of capillaries. In this humid, hypoxic and slightly acidic environment, the dissolution of necrotic substances is accelerated, the release of cytokines closely related to tissue is increased, and the infection rate of wound is not increased, and

the pain of wound can be reduced [12].

Pressure sore patients usually have moderate or severe anemia, hypoproteinemia, malnutrition, urinary system and respiratory system infection and other complications, which brings new challenges to our treatment. The massive loss of protein and nutrients in the wound will aggravate the above complications, which adds new difficulties to our treatment. The gastrointestinal function of patients with pressure ulcer is often affected by long-term bed rest, mental factors and so on. They often eat poorly. Enteral nutrition alone may not meet the nutritional requirements of patients with pressure ulcer. At this time, parenteral nutrition should be used and various complications should be prevented. The treatment plan of enteral and parenteral nutrition should be made according to the nutritional status, weight measurement, laboratory examination and other results of pressure sore patients. When the energy and protein requirements cannot meet the needs of the body, it will lead to pressure sore wound damage, organ dysfunction, easy infection, and eventually clinical death. Active nutritional support is the basic element of the treatment of pressure sore. It can reduce mortality and complications, accelerate the healing of pressure sore wound, reduce the destructive effect of hypermetabolism and subsequent catabolism. Every burn center should make nutrition treatment plan to make the monitoring of nutrition support before, during and after operation more standardized. There are two obvious problems in the recent literature of pressure sore research: first, the research on nutrition of pressure sore patients is insufficient. More data comes from trauma and other ICU populations, and it is often necessary to extend these studies to patients with pressure sores. Second, even in patients with pressure sores, the results of these studies are not always consistent: especially in different populations, similar treatment studies may draw conflicting conclusions. This is caused by different constitution of patients with pressure sore. Therefore, we should actively develop nutritional guidelines for patients with pressure sore, further guide the nutritional support treatment of patients with pressure sore, and lay the foundation for the perioperative treatment of patients.

(5) Preventive care

With the increase of medical demand, treatment difficulty and hospitalization cost of pressure sore, prevention and nursing become the key. How to effectively prevent pressure sore, reduce patients' pain and improve the prognosis effect is one of the problems actively discussed in clinical nursing at present. First of all, it is necessary to evaluate each patient, which is the essence of preventive care. In addition, the nursing staff should regularly assist the patient to change the lying position; pay attention to keep the patient's clothes and bed clean and dry, and observe whether there is swelling or blister on the local skin at any time; do a good job in the "six tasks" of preventing pressure sore, that is, pay attention to turning, wiping, changing, massage, observation and arrangement, and if necessary, give the patient decompression equipment. It is the future research direction to study the cost-effectiveness of multi center, non-drug intervention pressure sore. The cost-effectiveness of multi center, non-drug intervention to prevent pressure sore can be studied with multiple hospitals.

(6) Stage of pressure sore

The national pressure sore expert group of the United States suggests that the pressure sore be divided into four stages. There was no damage to the skin, but the erythema lasted for more than 1 hour. Clinical features: the skin is intact but red. There were blisters or ruptures in stage Ⅱ skin, with or without infection. Clinical features: pain, blister formation, similar to the superficial second degree burn wound. Stage III, also known as typical pressure sore, is characterized by the destruction of subcutaneous tissue and muscle, with or without various infections. Clinical features: irregular ulcer, necrotic substance, purulent and bloody exudate. Stage IV bone or joint destruction with or without infection. Clinical features: the exposure of muscle or bone, or bone joint, may have necrotic tissue, with or without stench.

3. AHP and Karnofsky Score

3.1. The Basic Principle of AHP

Analytic hierarchy process (AHP) is a system analysis method which uses both qualitative analysis and quantitative analysis. First, it is decomposed into several components, and then further decomposed into clearer, specific and quantifiable small factors for further analysis. This method can systemize, quantify and model complex problems (that is, problems with many levels)[12] .

(1) A hierarchical structure is established to form a target tree.

(2) A comparison judgment matrix is constructed to calculate the weight value.

The approximate weight of each indicator is:

$$\overline{W}_i = \sqrt[m]{a_{i1}a_{i2}\Lambda\ a_{im}} \tag{1}$$

Normalized

$$\overline{W}_i = \frac{\overline{W}_i}{\sum_{i=1}^{m}\overline{W}_i} \tag{2}$$

The normalized components are weights

(3) Consistency test consistency index:

$$CI = \frac{\lambda_{\max} - m}{m-1} \tag{3}$$

$$\lambda_{\max} = \frac{1}{n}\sum_{i=1}^{m}\lambda_i / m \tag{4}$$

$$\lambda_i = \sum_{j=1}^{m} a_{ijW_j/W_i} \tag{5}$$

Calculate the random consistency ratio:

$$\lambda_i = \sum_{j=1}^{m} a_{ijW_j/W_i} \tag{6}$$

3.2. Kanovsky Score

Karnofsky score was used for the functional status of patients, with a score of 0 to 100, a total of 11 grades. The lower the score, the worse the functional status. Patient KPS score standard: normal health, no subjective complaints or obvious objective symptoms (100 points); normal life with disease, mild disease or objective symptoms (90 points); normal life with few symptoms or objective symptoms (80 points); life You can take care of yourself, but you cannot guarantee normal activities or general work (70 points); most of the life can take care of yourself and occasionally need the help of others (60 points); most of the life cannot take care of yourself, often requiring treatment and care (50 points); Life can't take care of itself and needs special treatment and care (40 points); life can't take care of itself at all, although it is not critical and needs hospitalization (30 points); Critical condition requires further supportive treatment (20 points); Critical condition, rapid deterioration (10 points); death (0 points).

4. Research Object and Experimental Design

4.1. Research Object

Effects and mechanism of incomplete ischemia-reperfusion on skin pressure sores in rats.

4.2. Control Experiment

(1) Sample selection

The simulated patients were selected from 120 rats.

Good compliance, Braden score of pressure ulcer ≤18 points, Kanovsky score ≥70 points, no skin damage,

There was no statistically significant difference in age, sex, and condition of rats ($P>0.05$), and they were comparable.

(2) Grouping method

120 rats of simulated patients were randomly divided into 2 groups, 60 rats in each group. The experimental group adopted incomplete ischemia-reperfusion through continuous observation to study the changes in patients' cells and gave corresponding plans. The main caregivers of these rats were included in the study according to the inclusion and exclusion criteria for intervention. The average age of the experimental group (10±19) years meets the requirements, the average time of lying in bed (14±7) d meets the requirements, the average body mass index (24.9±1.4) meets the requirements, and the average age of the control group (10±20) years meets Requirements, the average bed time (14 ± 7) d meets the requirements, and the average body mass index (22.3 ± 2.6) meets the requirements.

(3) Control treatment

On the basis of routine preventive care, the bedridden patients in the experimental group continuously observed the skin in the long lying area using dermoscopy and electron microscope, continuously analyzed the patient's cell changes, dynamically analyzed and obtained symptomatic treatment measures of one person and one plan. The control group used traditional methods of discrimination, visual inspection and ordinary touch to check the skin folds of the patient, the skin at the angle between the limb and the trunk, and then let the nursing staff regularly assist the patient to change the lying position; pay attention to keeping the patient's clothing and mattress Clean and dry and observe the local skin for redness and blisters at any time; basic work to prevent pressure sores should be done.

(4) Observation indicators

The incidence of pressure ulcers in the two groups of patients was used as an observation index to evaluate the intervention effect. The formula for comparing the incidence of pressure ulcers in the two groups of patients with advanced lung cancer is as follows:

Occurrence rate of ulcer in continuous care group (%) = number of pressure ulcer cases in continuous care group / total number of cases in continuous care group × 100% (7)

Incidence of pressure ulcers in follow-up group (%) = number of pressure ulcers in follow-up group/total number of cases in follow-up group × 100% (8)

Observe the occurrence of pressure ulcers, prevention effect, nursing satisfaction, average hospitalization days and hospitalization costs of two groups of patients, and make statistical analysis. Criteria for effective prevention of pressure ulcers.

4.3. Mathematical Statistics

The data obtained from the experiment is statistical, sorted and analyzed using software such as

Excel2010 and Math Works MATLAB R2019b. The experimental results are described in tables and charts. SPSS19.0 statistical software was used for statistical and detailed analysis. All data were expressed as mean ±standard deviation. The IKDC score and Lysholm score were used between the two groups. The t test was used for pairwise comparison. $P<0.05$ was considered statistically significant.

5. Analysis and Discussion of Experimental Results

5.1. Evaluation and Analysis of the Effective Rate of Pressure Sore Prevention

According to the above experimental design, we designed a targeted patient rating evaluation table, as shown in Table 1.

Table 1. Pressure sore prevention effectiveness evaluation form

Score	General Condition	Mental Condition	Activity Ability	Exercise Ability	Fecal Incontinence
4	Good	Vigilance	Free	Unrestricted	None
3	General	Cold	With help	Mildly restricted	Occasionally
2	Poor	Confuse	Dependent on wheelchair	Very restricted	Urine
1	Very poor	Coma	Bed	Disable	Feces and urine
Note: Below 12 points belong to the high-risk group, and the incidence rate below 14 points is 32%.					

According to Table 1, the table design refers to the pressure sore risk factor assessment table, and carries out pressure sore risk assessment for all the subjects, so as to facilitate the comparison of later experiments. The corresponding scoring results are shown in Figure 1.

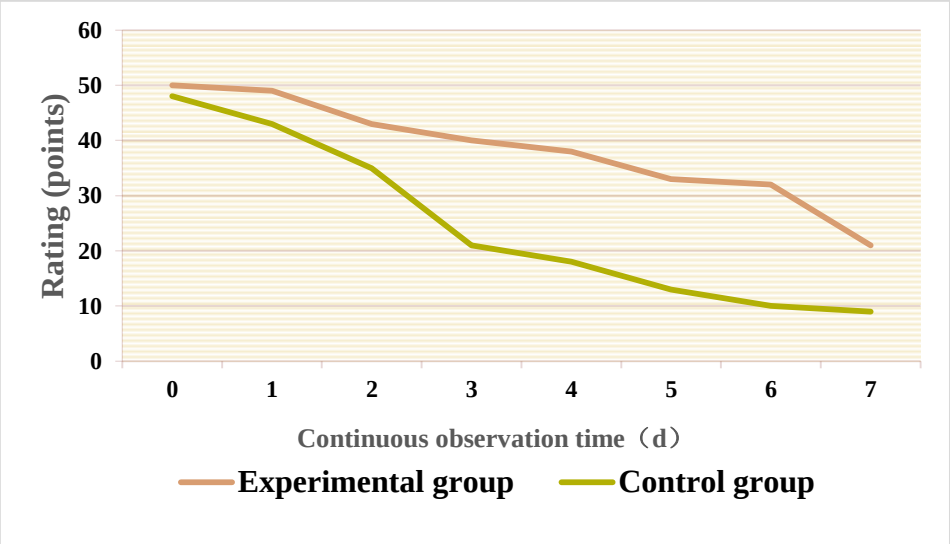

Figure 1. Trend graph of patient scores over time

From Figure 1, it can be seen that the score of patients decreases with time. Before the intervention, the score of pressure sore risk factors of patients. We can see that the experimental

score of the control group decreases more significantly, and the specific situation needs to be further verified.

5.2. Control Experiment Results

According to the above experimental design, through the comparative analysis of the effect before and after the intervention, the incidence of the control group and the experimental group were studied. The comparison of the incidence of pressure sore between the two groups is shown in Table 2.

Table 2. Comparison of the occurrence of pressure ulcers between the two groups

Divide	Un-occurred	Occurred	Total people	χ_2	P
Experimental group	53	7	60	4.125b	0.03
Control group	6	54	60	-	-
Total	59	61	-	-	-

Table 2 shows that the prevention and nursing of pressure ulcer on the skin contact surface of patients in bed by microscope is a protective factor for pressure ulcer, and the incidence rate of pressure ulcer on skin contact surface is 11.27% and 89.31%, respectively. It shows that the incidence of pressure ulcer on the skin contact surface can be reduced greatly by using microscope observation in preventive nursing for patients with chronic sleep.

Continue to follow up the patient, the results are shown in Figure 2.

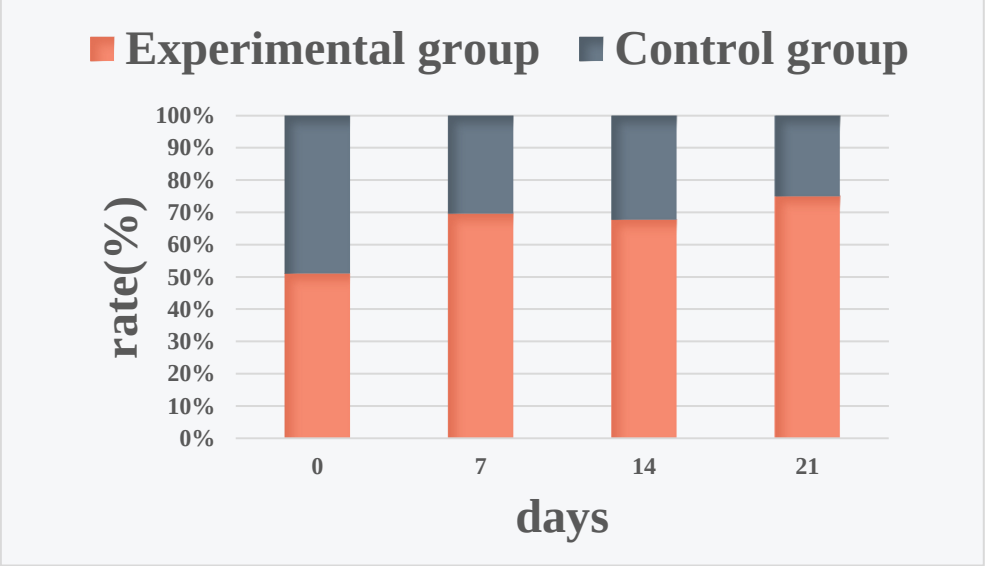

Figure 2. Graph of further follow-up

It can be seen from Figure 2 that the prevention of bedsore on the contact surface of the skin of bed assisted patients under the microscope is the protective factor of bedsore.

5.3. Data Promotion Analysis

According to the above experimental design, the two groups were compared, and the results are shown in Figure 3.

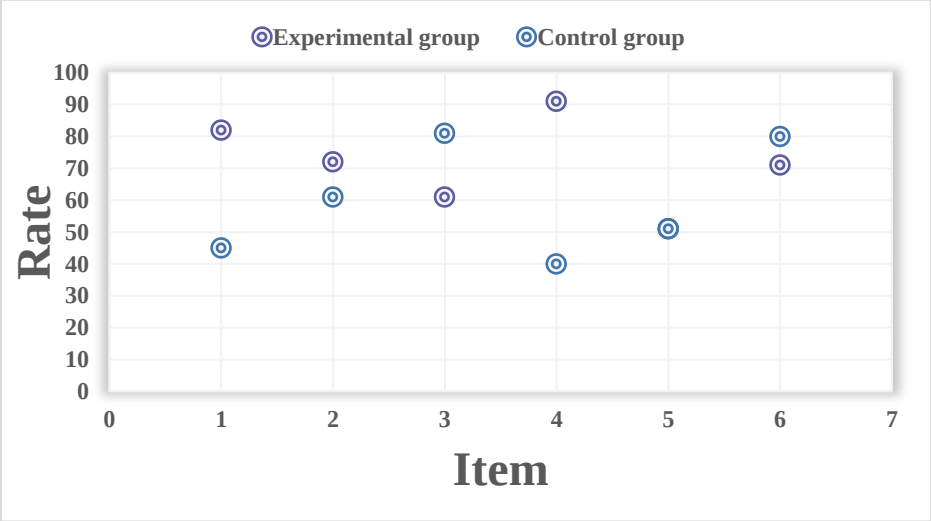

Figure 3. Evaluation ratio of experimental group and control group

It can be seen from the scatter diagram in Figure 3 that there is no significant difference in the evaluation proportion of patients in the experimental group and the control group in terms of item 2, 3 and 6, and there is significant difference in other items 1, 4, 5 and 7, among which 5 and 7 are missing, which are often evaluated according to the needs of patients.

If there is any change in the patient's condition, it needs to be reevaluated. According to the requirements, we need to modify it accordingly. The results of data promotion analysis are shown in Figure 4.

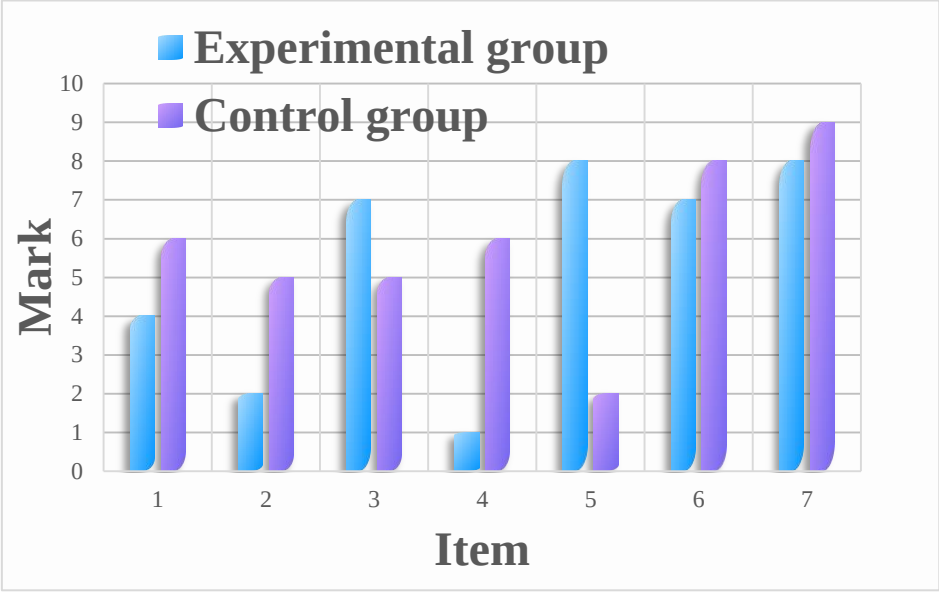

Figure 4. Time effect of pressure ulcer score in two groups of patients

It can be seen from Figure 4 that the pressure ulcer score in the two groups of patients has a difference in time effect, which is statistically significant ($P<0.01$), that is, regardless of the grouping factor, the pressure ulcer Braden score changes with time; the difference between groups There was no statistical significance ($P>0.05$), that is, regardless of the time factor, the grouping did not cause differences in the scores of the two groups of patients.

6. Conclusion

Pressure ulcers are one of the more common complications in elderly or severely bedridden patients. Pressure ulcers are recognized as a common nursing complication and have been the focus of clinical treatment and preventive care. In order to explore the effect and mechanism of incomplete ischemia-reperfusion on skin pressure sores in rats, this study set up two groups, using a controlled experiment method, randomly divided 120 simulated patient rats into two groups, each group 60 Only, the experimental group used incomplete ischemia-reperfusion to observe the changes of patients' cells through continuous observation, and the corresponding plan was given. The control group used common treatment methods, and the incidence of pressure ulcers in the two groups was observed by the Karnovsky score. Index evaluation of intervention effects can objectively reflect the effect and mechanism of incomplete ischemia-reperfusion on skin pressure sores in rats.

The results of the study found that incomplete ischemia-reperfusion can aggravate early skin contact surface pressure ulcers in bedridden patients. The detection effective rate was 81.2%, and the incidence of skin contact surface pressure ulcers was 89.31% and 11.27%, respectively. There was no significant difference between the two groups, $P>0.05$, no significant statistical difference, but the experimental group of incomplete ischemia-reperfusion in total score was significantly lower than the control group, $P<0.05$, with statistical difference. Over time, the experimental group's incomplete ischemia-reperfusion can aggravate early skin contact surface pressure ulcers in bedridden patients, showing that incomplete ischemia-reperfusion can aggravate early skin contact surface pressure ulcers in bedridden patients and can be promoted and applied.

In addition, through mathematical statistics and logical analysis, it is found that the experiment shows the comparison of the effects of two different preventive care. After several weeks of evaluation criteria, they are superior to the control group ($P<0.01$), and the experimental group's IKDC and Lysholm the scores were significantly higher than the control group, and the difference between the groups was statistically significant ($P<0.05$). Obviously, the preventive care of pressure ulcers on the skin contact surface of the bedridden patients in the experimental group must help, and the prevention and treatment of incomplete ischemia-reperfusion technology applied to the preventive care of pressure ulcers on the skin contact surface can improve to a certain extent and improve the quality of life of patients. Finally, based on the above research, finally, based on the above research, in the care of patients, it must be meticulous and thoughtful. It is useless to find the lesions and pre-symptoms without actively processing. Clinical nurses must understand and master the nursing methods described in this study. The scientific connotation of clinical nursing operations in the correct way to ensure good nursing results and avoid pressure ulcers.

Funding

This article is not supported by any foundation.

Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

References

[1] *Levine, J. M. (2018). "100 Years of Bedsores: How Much Have We Learned?, Advances in Skin & Wound Care", 31(3), pp.139-141. DOI: 10.1097/01.ASW.0000530066.59878.2b*

[2] *Iodence AE, Olsen AM, McGilvray KC, Duncan CG, & Duerr FM. (2018). "Use of Pressure Mapping for Quantitative Analysis of Pressure Points Induced by External Coaptation of the Distal Portion of the Pelvic Limb of Dogs", American Journal of Veterinary Research, 79(3), pp.317-323. DOI: 10.2460/ajvr.79.3.317*

[3] *Yazici, D. T. & Yener, A. (2019). "Processing Polymer Nanocomposites with Natural Additives for Medical Applications", Journal of polymer engineering, 39(2), pp.178-185.*

[4] *Lin, Y. Xu, H. Dong, B.Sun, X. Li, C, & Li, J. et al. (2017). "Amphiphilic Silane Modified Multifunctional Nanoparticles for Ratiometric Oxygen Sensing", Rsc Adv, 7(54), pp.34118-34124.*

[5] *Jaffe, & Elaine, S. (2017). "The Microscope as a Tool for Disease Discovery—a Personal Voyage", Annual Review of Pathology Mechanisms of Disease, 12(1), pp.1-24.*

[6] *Temiz, Y. (2020). "The Lego Microscope: a Valuable Lab Tool Began as a Diy Project - [hands on], IEEE Spectrum", 57(5), pp.16-18. DOI: 10.1109/MSPEC.2020.9078448*

[7] *Derek H. Craston, Charles W. Lin, & Allen J. Bard. (2016). "High Resolution Deposition of Silver in Nafion Films with the Scanning Tunneling Microscope", metallurgical analysis, 135(3), pp.66-68.*

[8] *G. Binnig, C. F. Quate, & Ch. Gerber. (2018). "Atomic Force Microscope", Journal of materials engineering, 56(9), pp.930-933. DOI: 10.1007/978-981-10-6156-1_6*

[9] *Yang, S. J. Berndl, M. Michael Ando, D. Barch, M. Narayanaswamy, A. & Christiansen, E. et al. (2018). "Assessing Microscope Image Focus Quality with Deep Learning", BMC Bioinformatics, 19(1), pp.77.*

[10] *Remy Neris, O. (2017). "Vhipod, Individual Transport Vehicle Standing Self-balancing Station for Disabled Person with Standing Aid, Anr", Impact,2017(4), pp.80-82.*

[11] *Jahan-Tigh, R. R. Chinn, G. M. & Rapini, R. P. (2016)."A Comparative Study Between Smartphone-based Microscopy and Conventional Light Microscopy in 1021 Dermatopathology Specimens", Archives of Pathology & Laboratory Medicine, 140(1), pp.86-90.*

[12] *Aguaron, J. Teresa Escobar, M. & Maria Moreno-Jimenez, J. (2016). "The Precise Consistency Consensus Matrix in a Local AHP-Group Decision Making Context", Annals of Operations Research, 245(1-2),pp. 245-259.*