**Introduction**

Healthcare related pressure ulcer is an important quality indicator for nursing care. The cost of its treatment was estimated around 2,000 to 3,000 US dollars per patient in the United States. It may extend the length of hospitalization and cause pain and discomfort in patients. Uncontrolled infections of the ulcers may even contribute to the presence of sepsis or death. The prevalence of pressure ulcers in surgical patients is between 12 to 66%. Among these events, 25% were developed during surgery. Surgery related pressure ulcer is an unresolved problem in the operational theatre. It is common in long-hour operation. Identification of risk factors may contribute to the prevention of surgery related pressure ulcers.

This study intended to identify risk factors related to pressure ulcer development during spinal surgery.

This study was conducted in a regional hospital in the south. OR records of spinal surgery between year 2012-2016 from one acute care hospital in Taiwan were reviewed. 394 patients received spinal surgery were identified. Risk factors of pressure ulcer development during surgery were retrieved, including categories of surface stress factors, blood perfusion factors, and oxygenation factors. Descriptive statistics and logistic regression were used to describe characteristics of study subjects and identify risk factors of surgery related pressure ulcers.

**METHODS**

This study was conducted in a regional hospital in the south. OR records of spinal surgery between year 2012-2016 from one acute care hospital in Taiwan were reviewed. 394 patients received spinal surgery were identified. Risk factors of pressure ulcer development during surgery were retrieved, including categories of surface stress factors, blood perfusion factors, and oxygenation factors. Descriptive statistics and logistic regression were used to describe characteristics of study subjects and identify risk factors of surgery related pressure ulcers.

**RESULTS**

394 cases of retrospective spinal cord surgery, found that 9 patients with pressure pressure ulcers.

- All 394 subjects took a prone position on a pressure reducing mattress placed over a circulating water bed. The temperature of the water bed was controlled at 37°C.
- The range of surgical time was between .8 to 11.5 hours.
- Age of patients ranged from 32 to 95 years.

Nine patients were found to develop intraoperative pressure ulcers with the severity from 1 to 2 degrees. The injured sites were on the front chest and cheek. Age of these patients ranged from 43 to 95 years old. The operation time was more than four hours, with an average of 6.21 hours. Risk factors of surgery related pressure ulcers identified were high BMI, hypertension, smoking history, and blood loss more than 500 cc.

**Discussion**

- This study had identified risk factors that contributed to development of surgery related pressure ulcers.
- Clinicians may manage these factors prior to or during the surgical procedure to prevent surgery related pressure ulcers.

**CONCLUSION**

This study is expected by spinal cord surgery with associated surgical factors resulting in operative pressure sore, suggesting that: to effectively prevent long-term surgery during the pressure sore, there is a clear control of the patient factors can follow the care and establish the preoperative visit to the health education content of the focus. The provision of caregivers has a clear basis for care.