

Effect of Early Personalized Intake and Feeding After Surgery on Recovery of Patients with Thyroid Cancer

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Abstract: Objective To investigate the effect of early personalized intake and eating on patients with thyroid cancer after surgery. Methods 164 patients with thyroid cancer undergoing surgical treatment were selected as the study objects and divided into observation group and control group. The control group returned to the ward 2 hours and 6 hours after surgery to guide the patients to take water and eat. After the observation group returned to the ward after surgery, Steward awakening score was performed first, and the Watian drinking water test was performed again. The results showed that those who reached grade II were instructed to take in water and eat, while those who did not reached grade II were instructed to conduct integrated rounds of medical care, and the patient's condition was evaluated again, and the patients were instructed to eat according to the situation. The intake and eating time of the observation group were counted. The incidence of thirst and hunger at 2h and 6h after returning to the ward, as well as postoperative discomfort, complications, length of stay and satisfaction were compared between the two groups. Results There were significant differences in the intake and eating time of the observation group. The incidence of thirst and hunger at 2h and 6h after returning to the ward of the observation group were lower than those of the control group ($P < 0.05$), and the satisfaction of hospitalization was higher than that of the control group ($P < 0.05$). Conclusion: The safety assessment of patients with thyroid cancer after surgery before guiding them to take in and eat early, and then determining the time and type of taking in and eating according to the patient's condition can better ensure the safety of patients, reduce discomfort and improve treatment satisfaction. This practice is worthy of clinical reference and promotion.

Keywords: Thyroid Cancer; Personalization; Nursing Safety

Introduction

Surgical treatment is the main treatment for thyroid cancer, such as prolonged water prohibition and fasting after surgery will make patients thirsty, hunger, dry throat, phlegm, etc., delay the postoperative recovery of patients. Studies have shown that patients who ingest water 4 hours after thyroid cancer surgery recover better than those who ingest water 6 hours 1. Therefore, this study does not take the specific time as the standard of intake and eating, but guides the safety assessment before early intake and eating for patients with thyroid cancer after surgery, and then determines the intake and eating time and type according to the patient's situation. The results are reported as follows:

1. Objects and methods

1.1 Research object

A total of 164 thyroid cancer patients aged 22-70 years (mean 38 ± 3.12) underwent surgical treatment from February 2022 to May 2023 were selected. The patients were divided into observation group and control group, including 82 cases (26 males and 56 females) in observation group and 82 cases (29 males and 53 females) in control group. Inclusion criteria: Patients who met the clinical diagnostic criteria for thyroid cancer as defined in the Criteria for the Diagnosis and Treatment of Thyroid Cancer and underwent surgical treatment; Age 18-75 years old. Exclusion criteria: dysphagia before operation;

Complicated with cerebrovascular accident; Or patients with simultaneous operation of trachea and esophagus may affect swallowing function; Patients with mental and cognitive impairment.

1.2 Methods

1.2.1 Control Group

According to the clinical path of perioperative care for thyroid cancer formulated by the department, the time of intake and eating after surgery should be guided to take warm and cool water within 2 hours after returning to the ward, with the amount ranging from 30-50ml each time, and take warm and cool liquid within 6 hours, and gradually transition to general food.

1.2.2 Observation group

All patients were given measures according to the perioperative clinical nursing path of thyroid cancer formulated by the department, but Steward recovery score was performed upon return to the ward after surgery. Those who scored less than 6 points were assessed once every half hour, and those who scored up to 6 points were given low-field drinking water test. Those who achieved grade II or above were instructed to take in water and eat according to the patient's condition (no nausea, vomiting, abdominal distension and pain). The patients who did not reach the second level of the drinking water test should conduct integrated rounds of medical care, and then evaluate the patient's condition, such as the patients with normal cough and swallowing function, psychological counseling, and directly adjust the diet to half flow solid food, and then gradually transition to general food.

1.2.3 Observing Indicators

Baseline indicators: sex, age, operation method, operation time

Patient discomfort index; Thirst, hunger, choking, difficulty expectorating, nausea and vomiting, sore throat and wound, abdominal distension, hoarseness, numbness of hands and feet, and other discomfort. Among them, thirst sensation: the Chinese version of perioperative thirst discomfort scale translated by Zhang Ruihua et al. Hunger: VAS score was used, and nausea and vomiting were rated according to WHO standards without distinction. Throat pain, wound pain, abdominal distension and abdominal pain were all rated by digital scale. Postoperative rehabilitation indicators: postoperative complications, postoperative hospital stay, satisfaction. Among the complications were bleeding, dyspnea and asphyxia, which were diagnosed by the doctor and recorded by the nurse. Satisfaction is the unified questionnaire of the hospital, which is pushed to the background by the third party.

1.2.4 Statistical methods

SPSS 25.0 statistical software was used for statistical processing. The measurement data were represented by $\bar{X} \pm S$, the number of use cases and the rate of counting data, line descriptive analysis and variance analysis.

Step 2: Results

2.1 Baseline indicators: gender, age, operation method, and operation time

A total of 164 patients with thyroid cancer undergoing surgical treatment, aged 22-70 years (mean 39 ± 3.12), were included in this study, as shown in Table 1, with no statistical significance ($P > 0.05$).

Table 1 Baseline data of 164 patients with thyroid cancer

group	sex		Operation time			Surgical approach		
	male	female	Within 2h	Within 3h	More than 3h	Open neck	Mouth cavity	axilla
Control group	29	53	72	9	1	69	11	2
Observation group	26	56	73	7	2	67	13	2
p-value	0.62		0.74			0.91		

2.2 Postoperative discomfort index

The water intake time of the observation group was 5-312 minutes after returning to the ward, with an average of 120 ± 22 minutes, and the feeding time was 100-830 minutes after returning to the ward, with an average of 480 ± 18 minutes. The incidence of postoperative thirst discomfort at 2h, hunger at 6h, postoperative discomfort and pain scores greater than 3 points in the observation group was lower than that in the control group ($P < 0.05$).

2.3 Postoperative rehabilitation indicators

Hospitalization satisfaction in the observation group was higher than that in the control group ($P < 0.05$), and the incidence of postoperative complications and duration of postoperative hospitalization were not statistically significant between the two groups ($P > 0.05$).

3. Discussion

3.1 The implementation of personalized intake and eating in the early postoperative period can better ensure the safety of patients with thyroid cancer after surgery and improve patient satisfaction

Injuries to the superior laryngeal nerve and recurrent laryngeal nerve are common complications after thyroid cancer surgery. Damage to the upper laryngeal nerve can cause coughing when drinking water. Literature reports that recurrent laryngeal nerve injury rate in patients with thyroid surgery is generally 1-10%². The injury of recurrent laryngeal nerve will weaken the laryngeal muscle movement, the laryngeal rise is incomplete when swallowing, the epiglottis cannot completely cover the airway opening, the glottis is also incomplete, and the symptoms of coughing occur when drinking water. The data showed that 29.1% of drinking water coughing may be related to recurrent laryngeal nerve injury². Secondly, the operation time for thyroid cancer is short. 88.4% of the subjects in this study had the operation time within 2 hours, and the data showed that the operation time was short. Due to the residual effects of anesthetics and muscle relaxation drugs, and the removal in the body of patients affected by liver and kidney function and age, patients may still have respiratory depression, decreased muscle tone in the throat, and motor incoordination after recovering consciousness. When the patient's condition is not evaluated, the direct time as the intake standard may increase the incidence of respiratory adverse events in patients. In this study, a total of 10 cases of patients with different degrees of ingestion cough were counted. In the observation group, 4 patients were found to have cough during the drinking water test in the depression field, which was followed by an integrated ward round to evaluate the normal cough and swallowing function of the patients, psychological counseling was given to the patients, and the patients were instructed to eat half stream solid food.

3.2 Personalized intake and eating time in the early postoperative period is more in line with the physiological needs of individual patients

Postoperative thirst and hunger were affected by patient factors (age, gender, disease status, psychological and emotional changes), surgical factors (operative time, intraoperative fluid loss, intraoperative mechanical ventilation, surgical environment), and drug factors (opioids, anticholinergics, diuretics, serotonin reuptake inhibitors)⁴. In this study, the water intake time of the observation group was 5-312 minutes after returning to the ward after surgery, with an average of 120 ± 22 minutes, and the feeding time was 100-830 minutes after returning to the ward, with an average of 480 ± 18 minutes. At the same time, the incidence rates of thirst and discomfort 2h and hunger 6h after returning to the ward after surgery were statistically analyzed, and the observation group was lower than the control group ($p < 0.05$), which also indicated that patients had obvious individual differences in intake and eating time. Therefore, the implementation of personalized intake and eating time was more in line with the physiological needs of patients and reduced their discomfort.

4. Summary

The operation for thyroid cancer does not involve the gastrointestinal tract, so it is recommended to eat through the

mouth as soon as possible after anesthesia to relieve the discomfort of the patient. However, the thirst and hunger of the patient are affected by multiple factors, and the operation may cause irritation or damage to the superior laryngeal nerve and recurrent laryngeal nerve, which may lead to unsafe water intake and food for the patient. Therefore, a comprehensive, objective and accurate safety assessment should be made during the early postoperative intake and food. Then, according to the evaluation results, the time and type of intake and feeding are guided. Only in this way can we ensure patient safety, reduce patient discomfort, improve patient satisfaction and promote patient rehabilitation.

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