

## Research Article

# Holistic Nursing Care in a Case of Allergic Granulomatous Angiitis with Subglottic Stenosis

Wu Jinjin, Sha Yaping, Ye Chunhua\*, Ge Wenjing\*

Department of Rheumatology, RenJi Hospital South Campus, School of medicine, Shanghai Jiaotong University, Shanghai, China

\***Corresponding Author:** Ye Chunhua, Department of Rheumatology, RenJi Hospital South Campus, School of medicine, Shanghai Jiaotong University, Shanghai, China, Email: [yechunhua@renji.com](mailto:yechunhua@renji.com)

Ge Wenjing, Department of Rheumatology, RenJi Hospital South Campus, School of medicine, Shanghai Jiaotong University, Shanghai, China, Email: [gewenjing@renji.com](mailto:gewenjing@renji.com)

**Received:** 14 September 2020; **Accepted:** 28 September 2020; **Published:** 02 October 2020

**Citation:** Wu Jinjin, Sha Yaping, Ye Chunhua, Ge Wenjing. Holistic Nursing Care in a Case of Allergic Granulomatous Angiitis with Subglottic Stenosis. Fortune Journal of Rheumatology 2 (2020): 084-089.

### Abstract

**Objectives:** To analyze the effect of holistic nursing care in a case of allergic granulomatous angiitis with subglottic stenosis.

**Methods:** A holistic nursing care includes observation of disease, psychological nursing, tracheotomy nursing, medication care, diet nursing, rehabilitation guidance to care for the patient.

**Results:** The patient had tracheostomy for 23 days and disturbed when discharged.

**Conclusions:** Holistic nursing care can help the patient

care the tracheostomy by herself.

**Keywords:** Allergic granulomatosis angiitis; Subglottic stenosis; Holistic nursing care

### 1. Introduction

Allergic granulomatosis angiitis (AGA) is a systemic vasculitis characterized by asthma, eosinophilia in blood and tissues, eosinophilic necrotizing vasculitis with necrotizing granuloma, which mainly involves middle and small arteries and veins [1]. It was first reported by American Pathologists Chury and Strauss in 1951, so it is also called Chury-Strauss syndrome (CSS), which is a

rare clinical disease. Subglottic stenosis (SGS) is a kind of disease that causes inflammation and scar hyperplasia of subglottic mucosa due to various reasons, resulting in tracheal stenosis affecting breathing. Patients often need tracheotomy [2]. On April 4, 2018, our department treated a case of allergic granulomatous angiitis with tracheotomy for the stenosis of the subglottic. Through a series of active treatment and holistic nursing such as observation of disease, psychological nursing, tracheotomy nursing, medication care, diet nursing, rehabilitation guidance and so on, her condition was stable and discharged. Now the nursing experience is reported as follows.

## **2. Clinical Data**

### **2.1 General Information**

Miss Fu of 21 years old was admitted on April 4, 2018 due to “nasal congestion, hoarseness for more than one year, aggravation for half a year, dyspnea for half a day”.

**Disease history:** In September 2016, there was no obvious inducement for the patient to develop nasal congestion, headache, right parotid gland enlargement, accompanied by the gradual decline of right hearing and hoarseness. The diagnosis was allergic granulomatous angiitis. In December 2017, due to the aggravation of hoarseness and obvious shortness of breath, it was diagnosed as subglottic stenosis of allergic granulomatous angiitis. On April 4, 2018, the patient suffered from dyspnea and discomfort, and transferred to ICU after emergency tracheotomy in our hospital. After the treatment of primary disease, the patient’s condition was gradually controlled. For further treatment of primary disease, it was transferred to the department of rheumatology on April 6, 2018. The patient has a clear mind and can respond. The vital sign was normal, low oxygen saturation about 92%; bilateral pupillary light reflex (+), sinus rhythm, thick breath in

both lungs, CT showed a small amount of moist rates in both lower lungs; abnormal values: GPT 472u/L, GPT 255u/L, total bilirubin 39umol/L, urea nitrogen 15.8mmol/l, creatinine 188umol/L, uric acid 375umol/L, LDH 625u/L, Glutamyl transpeptidase 75u/L, total protein 54G/L, albumin 23g/L. Combined with clinical manifestations and laboratory results, it was diagnosed as allergic granulomatous angiitis, lower glottic stenosis, hepatic insufficiency and renal insufficiency after tracheotomy.

### **2.2 Treatment of the Disease**

The patient was given anti-infection drugs (imipenem, vancomycin, fluconazole, penicillin, minocycline), liver-protection drugs (entecavir, polyene phosphatidylcholine), hormone drugs (methylpredni solone), gastric mucosa protection drug (omeprazole), expectorant (ambroxol), brain resuscitation and blood pressure reduction (naloxone hydrochloride, cerebroprotein hydrolysate, glycerin fructose) and nutritional support (intravenous hypernutrition) treatment.

### **2.3 Results**

After 23 days of active treatment and nursing, the patient was in stable condition and can be discharged after daily activities.

## **3. Holistic Nursing Care**

### **3.1 The Vital Signs Nursing**

Observing the patient’s consciousness and pupillary changes, and she was given a mental assessment and pupillary examination per shift. ECG monitoring, paying close attention to the changes of blood pressure, heart rate, oxygen saturation, reporting to the doctor in time in case of any abnormality, recording the urine volume, controlling the speed of rehydration and monitoring her temperature.

### 3.2 Psychological Nursing

- The tracheotomy makes the patient unable to speak, affects language communication, she may feel lonely and scared. Nurses provide writing board, pen to communicate with the patient, also uses gestures.
- Every day, professional psychological nurses connect the family members care of the patient to establish a good relationship between nurses and patients and to obtain trust and cooperation.
- When the patient feels difficult to eat, or depressed and unwilling to eat, nurses explain that the nutrition intake is important as it will affect the immune function and appropriate intravenous nutrition support is provided in necessity.
- For the changes of appearance after tracheotomy and hormone use, the patient showed helplessness, decreased self-worth and self-confidence, psychological nurse can explain to the patient that the symptoms would gradually disappear after the condition was stable and the drug was reduced. Suggested the patient that the appearance defects can be covered by dressing, wearing jewelry and other methods. The psychological nursing is indispensable in the overall high-quality nursing, which provides the patients with a comfortable and clean treatment environment. The nursing attitude is amiable, the words and deeds are gentle, and communicates to the patient patiently.

### 3.3 Tracheotomy Nursing

**3.3.1 Care of oxygen inhalation:** Oxygen blowing at the incision of the trachea. To prevent the extrusion of the oxygen tube, aseptic tape is used to fix the oxygen tube. The patient was given continuous and effective

low flow oxygen inhalation to improve the blood oxygen concentration and closely observe the change of blood oxygen saturation.

**3.3.2 Position nursing:** Assists the patient to turn over in bed. Elevation of the head of the bed properly, keeps the patient's respiratory tract unobstructed, facilitates the sputum excretion and prevents pulmonary infection.

**3.3.3 Airway moist nursing:** Continuous airway humidification by infusion of 0.45% and saline solution of 250 ml daily with about 3-5 drops per minute in the tracheal tube, strictly controls the speed of humidification liquid drop, ensures the respiratory tract is wet as it can dilute the sputum effectively and avoid the pulmonary infection [3].

**3.3.4 Care of sputum excretion:** Airway humidification, turn over and clap the back to promote the expectoration of sputum. If the sputum is not easy to be expectorated, suction require measures. When used suction we need used tube. The suction time should not exceed 15 seconds each time. When suction, adhere to the principle of sterile and from the inside to the outside. If the secretion is not clean once more, the interval between two suction should be at least 2 minutes, and continuous suction cannot be carried out for a long time. After sputum suction, guides the patient to cough, which is conducive to sputum discharge and sputum suction.

**3.3.5 Incision nursing:** Daily uses 0.5% Iodophor to clean and disinfect the incision and surrounding skin, timely wipes the sputum, keeps the dressing dry and clean, replaces it at any time when it is wet, and observes whether the skin tissue at the incision is abnormal (such as subcutaneous emphysema, bleeding, etc.).

**3.3.6 Care of tracheotomy tube:** Metal tube shall be replaced every 6 hours. Before discharge, nurses guide the patient to disinfect the metal tube, the patient needs to prepare two and more tubes for exchange. Heat boil is an appropriate antipoisoning method at home. The patient can use a mirror to help smooth insert the metal tube.

**3.3.7 Environmental care:** Nurses use ultraviolet disinfection in the ward twice a day for 35 minutes each time. Regularly opens windows and ventilate, keeps clean, avoids dust, and keeps appropriate temperature and humidity in the ward. The temperature shall be kept at 18-22°C as far as possible, and the relative humidity of indoor air shall be kept at 60-70% by using an air humidifier. Reduces personnel visit and avoids cross infection.

### **3.4 Medication and nursing**

- Long term application of glucocorticoids can lead to weight gain, full moon face, buffalo back, acne, hair increase, osteoporosis, diabetes, induced or increased infection and other side effects [4]. Nurses guide the patient to wash their face and bath with warm water and mild soap. After hormone treatment, they will have a high appetite, they must pay attention to diet control and avoid overeating; they should take hormone after breakfast every day, and add alfacalcidol and vitamin D to prevent osteoporosis. After each meal, they should gargle with chlorhexidine solution to keep their mouth clean and prevent oral infection caused by bacteria and fungus [5].
- The biochemical examination of patients indicated that: glutamic pyruvic transaminase of 472u/L, glutamic oxaloacetic transaminase of 255u/L, she needed to take liver-protect drugs according to the doctor's instructions,

and the liver function is checked regularly during the treatment every week.

- Arranges the administration time of antibiotics.

### **3.5 Diet nursing**

- In the acute stage of the disease, the patient is unable to eat due to unconsciousness, parenteral nutrition can help her nutrition supply.
- When the patient is conscious, they are advised to drink a small amount of water first, and then gradually transition from liquid to semiliquid to soft food and to general food at last.
- Patient must take glucocorticoids for a long time which causes the blood sugar to rise, nurses inform the patients and their families to pay attention to the blood sugar and to take a diet of high protein, high calorie, rich in vitamins, low fat and low sugar, and to regularly monitor the blood sugar.
- The patient had anemia (hemoglobin 78-96 g/L, red blood cell  $3.2-3.59 \times 10^{12} / L$ ), nurses guide the patient to eat high-quality protein, essential microelements, folic acid, vitamin B12 and other nutritional foods, such as egg yolk, milk, lean meat, black rice, red dates, sesame and fresh green leafy vegetables, melons and fruits. It is forbidden to take strong tea, coffee, etc., because they can inhibit the absorption of iron [6].

### **3.6 Catheter care**

- The patient had catheters including deep vein catheter, indwelling catheter, tracheal tube, properly fix each catheter, explains the usage for the patient. When turn over and clap back, prevents unplanned extubating.
- Strictly implements the sterile operation process, do a good job in the nursing of

patients' catheters, and keep the catheters unobstructed and closed.

- The dressing of deep vein catheter shall be replaced once a week or replaced immediately in case of blood seepage, liquid seepage, loose dressing and pollution.
- Uses 0.5% Iodophor to wipe the urethral orifice twice a day, and replaces the drainage bag twice a week, keeps the perineum clean and dry. Observes the quantity, color and character of urine and makes records.
- The necessity of indwelling catheter should be evaluated daily and removed as early as possible if not needed.

### **3.7 Rehabilitation guidance**

During the early stage of the disease, the patient stays in bed for a long time, nurses assist the patient to turn over for every two hours to take a comfortable position. Nurses massage limbs daily to improve blood circulation, eliminate swelling, prevent joint rigidity and muscle disuse atrophy. After the stable recovery period, with the support of nursing staff and family members, the patient gradually increases sitting activities and out of bed exercises step by step, nurses pay attention to safety, until the recovery of daily activities.

### **3.8 Discharge guidance**

- Nurses make individualized, detailed and comprehensive health guidance plan according to the disease characteristics of patient, and guides the medication, diet, tracheotomy tube care, self-monitoring, follow up etc. after discharge. In the course of hormone treatment, the patient is dubious about the treatment due to the drug reaction and reduces the drug without permission. They should introduce the adverse reactions and curative effects of hormone in detail and comprehensively, so that

the patients can correctly understand the purpose and significance of hormone therapy.

- Lets the family members fully participate in the supervision after discharge, and guides them to observe the changes of words, deeds and emotions.
- Contacts with patients through telephone, WeChat and regular outpatient follow-up, so that patients and their families can understand the disease-related knowledge in time, so as to ensure limited treatment and achieve satisfactory results.

## **4. Conclusion**

Allergic granulomatosis angiitis is mainly involved in small and medium-sized artery system necrosis vasculitis. Its prognosis is related to the involved organs, and its treatment is also a long-term and chronic process. In the process of nursing, the nurses should pay more attention to the patients' psychology, strengthen the attention to the patients' condition, medication, diet, rehabilitation and other aspects, actively guide the patients' psychology, avoid the patients' negative psychology of self-abandonment, and promote the patients' early recovery.

## **References**

1. Xiong Xiaoqi, Wang Xiaoping, Zeng fanjun. Report on a suspected case of allergic granulomatosis angiitis of lung cancer. *Journal of clinical pulmonary science* 21 (2016): 1739-1740.
2. Cui Pengcheng, Luo Jiasheng, Zhao Daqing, et al. Endoscopic balloon dilatation in the treatment of subglottic stenosis in children. *Chinese Journal of Otolaryngology* 51 (2016): 286-288.
3. Wang chungong. Application effect of continuous airway humidification in

- tracheotomy nursing. *Psychologist* 22 (2016): 154-155.
4. Li Yongqing. Pharmacological effects and adverse reactions of glucocorticoids. *North pharmaceutical* 10 (2013): 32-33.
  5. Wu yongjuan. Nursing of granulomatous vasculitis. *Journal of health* 5 (2013): 199-200.
  6. Chen Lina. Nursing care of one case of tuberculous meningitis after liver transplantation. *Shanghai nursing* 18 (2018): 71-73.



This article is an open access article distributed under the terms and conditions of the [Creative Commons Attribution \(CC-BY\) license 4.0](https://creativecommons.org/licenses/by/4.0/)