Correct Prevention and Control of Pneumonia Caused by the Novel Coronavirus

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Abstract: After the novel coronavirus-infected pneumonia situation occurred in Wuhan, China and other areas in December of 2019, the CPC Central Committee and the State Council required the Party committees and governments at all levels must take effective measures to curb the spread of the virus and identify the causes of the virus infection and spread quickly. Although the prevention and control of pneumonia caused by the novel coronavirus has been carried out in full swing all over the country, the spread of the virus has not been blocked, and the pathogenesis and transmission of the virus are not known yet. Thus, the author analyzed the pathogenesis and transmission of the novel coronavirus again, finding that the virus is caused by cold weather, the shared cold weather is the way to spread the epidemic, and the possibility of novel coronavirus infection causing pneumonia is minimal, so there is no need to over consider safety isolation or tight monitoring.

Key words: Novel coronavirus, pathogenesis, transmission, pneumonia situation, correct prevention and control.

1. The Outbreak of Pneumonia and Its Prevention and Control

Recently, the Novel Coronavirus-infected pneumonia situation occurred in Wuhan, Hubei Province and other areas. After the outbreak of the epidemic, the CPC Central Committee and the State Council attached great importance to it. President Xi Jinping required the Party committees and governments at all levels must put people’s safety and health as the top priority and take effective measures to curb the spread of the virus. He also ordered all-out efforts to treat patients, identify the causes of the virus infection and spread at an earlier date, strengthen monitoring and standardize treatment procedures. Premier Li Keqiang also instructed related government departments and localities to improve response plans and spare no effort in prevention and control in this regard. He also demanded better communication and coordination with the World Health Organization, related countries, as well as Hong Kong, Macao and Taiwan to join efforts to curb the spread of the virus.

According to President Xi Jinping and Premier Li Keqiang’s instructions, the joint prevention and control mechanism of the State Council held a teleconference on January 20th, 2020 to make an overall arrangement for the prevention and control of pneumonia situation caused by the Novel Coronavirus. The National Health Commission has set up a leading group to cope with the situation and give guidance in local response efforts. All over the country, the departments at all levels respond positively, they have taken effective measures to safeguard the people’s health and maintain social order. Especially, they have strengthened the prevention and control of key areas and places, such as stations, highway entrances and exits, shopping malls, hospitals, schools, etc., and have reduced large aggregate activities, in order to ensure timely detection and effective treatment of epidemic situation.

Although the prevention and control of pneumonia caused by the novel coronavirus has been carried out in full swing all over the country, the spread of the virus has not been blocked, the number of cases is
rising rapidly, the situation is extremely complicated and severe. Experts believe that although the current epidemic situation is generally preventable and controllable, its pathogenesis and the rule of transmission are not known yet, hindering epidemic prevention and control greatly [1, 2].

2. Exploring the Pathogenesis of the Novel Coronavirus and the Rule of Its Transmission

In order to effectively treat patients and prevent the spread of the epidemic, we must find out the pathogenesis of the novel coronavirus and the rule of its transmission, so as to make precise policy and eliminate the disease.

We should first study the beginning of the incident, paying special attention to time, place and characters. The initial cases of novel coronavirus (2019-nCoV)-infected pneumonia (NCIP) occurred in Wuhan, Hubei Province, China, in December 2019 and January 2020. Since the earliest outbreak of NCIP is in the season of cold wind and heavy snow, we can conclude that cold is probably the primary cause of NCIP. Secondly, Wuhan is located in the hilly area surrounded by hills and ridges with high altitude; it is usually attacked by mountain wind and plain wind in winter, making this area extremely cold and easy to catch respiratory tract diseases. This fact also supports the previous conclusion. In addition, according to the report issued by Wuhan Health Commission, most of the pneumonia cases found by the medical institutions are related to Wuhan Seafood Market. Since the seafood market usually uses a large number of ice cubes or even ice caves to keep fresh, the ambient temperature in this market is relatively low, making workers there easy to catch a cold or respiratory tract disease. This fact also supports the previous conclusion.

In fact, it is well-known that cold weather is the most likely cause of pneumonia, but the pathology is little known, so it is necessary to reveal it here. When a person encounters cold weather or low temperature, his/her nose is susceptible to cold air, the response of the nasal mucosa is usually the increased activity of the nasal mucosa, including the dilating and congesting of local capillaries and the swelling of nasal mucosa, which secretes large amounts of tissue fluid to warm the inhaled air to meet the needs of the lower respiratory tract. When there is too much secretion, it is runny; when the nose is blocked, the snot will flow into the larynx when the person inhales vigorously, when the person is lying on his/her back, the snot will also flow into the larynx. If the snot stays in the larynx for a long time, it may cause laryngitis, leading to cough and asthma. If the snot stays in the larynx for so long that damages the epithelial tissue of the larynx, it may cause serious laryngitis. There are abundant nerve endings in epithelial tissue, which can feel all kinds of stimulation. After the epithelial tissue is damaged, many of the epithelial cells are eroded by acid-base toxins from the snot, but not completely dead. This kind of cells is mutant cells. Each mutant cell lives in a living cell and depends on absorbing the nutrients in the living cell. Since the undamaged sides of these mutant cells are still connected with many blood vessels and nerve endings, in the process of breathing, when there is snot with a lower or higher pH value seeping into these cells, it will stimulate the nerve endings connecting the cells to make the throat feel extremely itchy, causing severe cough. In addition, damaged cells tend to heal, during the healing of these cells, the new nerve endings are easily stimulated by toxins, causing severe cough. Therefore, the mutant cell is a kind of virus cell without complete cell structure [3, 4]. During a severe cough, strong air currents can easily uproot some severely damaged epithelial cells, scattered on the wall of the nearby trachea or in the pulmonary trachea, which can be isolated by washing liquid. Since the
Fig. 1 Coronavirus.

virus cells are connected to many severed nerve endings, there are many spinous processes on the membrane around it, the whole virus is like a crown, therefore it is called coronavirus, as is shown in Fig. 1 [5]. Since children are easy to catch cold and cough, but the impact of air flow caused by their cough is weak, this kind of coronavirus is usually found in the upper respiratory tract of some sick children. For adults with severe pneumonia, they cough frequently and the air blasts are strong, it is possible to scatter the coronavirus into the trachea of the lungs, becoming the so-called Novel Coronavirus currently [6].

Some wild animals, such as bats and civets, have long lived outside, which is colder than the living environment of human beings, so their respiratory tracts are more likely to produce coronavirus. But this kind of viruses can not spread, so these animals are not the carriers of the coronavirus.

3. Apply Medicine to the Right Situation and Make Precise Measures

Through the analysis of the epidemic situation of pneumonia infected by the Novel Coronavirus and the pathogenesis of this kind of pneumonia, it can be seen that cold weather is the primary cause of the Novel Coronavirus pneumonia, and sharing cold weather is the real way to spread the epidemic. Hence, in order to effectively treat patients and prevent the spread of the epidemic, we should take corresponding measures from the aspects of clothing, food, housing, transportation and so forth:

1. Wear enough clothes to keep your body warm and comfortable. For this purpose, you should have a cotton coat, overcoat or down coat as outer garment;
2. Cover enough quilts to make sure you feel warm and comfortable when sleep. For this purpose, at least two thick quilts and one warm blanket shall be provided;
3. Pave thick mattress to keep you warm when you sleep and prevent the heat generated by the body from being absorbed by the cold bed board. For this purpose, one electric blanket and a thick quilt should be bought as mattresses;
4. Make sure you do not feel cold or warm in the room. Do not ventilate the room casually, and close the windows and doors when the wind blows. Use the stove or electric heater to keep warm;
5. Try to stay in a warm home or comfortable environment. Do not visit or travel in the cold wind or snow;
6. Eat warm food and drink hot soup. Cook up the food to make it interesting.

Next, since the Novel Coronavirus is a kind of mutant virus cell produced in patient’s trachea, they can only be expelled by coughing or sneezing, and the diameter of a Novel Coronavirus is less than 1 μm, much finer than an ordinary dust. In addition, its pH is also very low, it can not bring back to life even if it enters other human body with the air flow, nor can it connect to the nerve endings of human body again, therefore it does not cause itching or coughing. Hence, the possibility of pneumonia caused by the Novel Coronavirus is very small, so there is no need to think too much about safety segregation or prohibition of assembly, it is unnecessary to set up control in key areas and places such as stations, highway entrances and exits, shopping malls, hospitals, schools, etc. People’s living convenience and normal social and economic order should be restored.

4. Conclusions
For the sudden outbreak of pneumonia caused by the novel coronavirus infection, since the source of the novel coronavirus has not yet been identified, and the transmission route of the epidemic is not fully understood, the epidemic is still spreading, and the situation is extremely severe. Thus, the author has analyzed various factors that may cause novel coronavirus-infected pneumonia, finding that the virus is caused by cold weather, the shared cold weather is the way to spread the epidemic, and the possibility of novel coronavirus infection causing pneumonia is minimal, so there is no need to over consider safety isolation or tight monitoring.

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