

Consensus on Pre-examination and Triage in Clinic of Dermatology During Outbreak of COVID-19 From Chinese Experts[#]

Hui Zhang¹, Hai Long², Lin Ma³, Gang Wang⁴, Qi-Ri Mu⁵, Yu-Ping Ran⁶, Quan-Zhong Liu⁷, Sheng-Xiang Xiao⁸, Xue-Jun Zhang⁹, Jian-Zhong Zhang¹⁰, Fu-Ren Zhang¹¹, Li He¹², Ai-Jun Chen¹³, Xiang Chen¹⁴, Jie Zheng¹⁵, Rong-Ya Yang¹⁶, Zhi-Rong Yao^{1,*}, Ping Tu¹⁷, Yu-Zhen Li¹⁸, Xing-Hua Gao¹⁹, Jin-Hua Xu²⁰, Heng Gu²¹, Bo Cheng²², Wei Lai²³, Qian-Jin Lu^{2,*}

¹Department of Dermatology, Xinhua Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai 200092, China, ²Department of Dermatology, The Second Xiangya Hospital, Central South University, Changsha, Hunan 410011, China, ³Department of Dermatology, Beijing Children's Hospital, Capital Medical University, Beijing 100045, China, ⁴Department of Dermatology, Xijing Hospital, Fourth Military Medical University, Xi'an 710032, China, ⁵Department of Dermatology, Inner Mongolia Autonomous Region People's Hospital, Hohhot 010017, China, ⁶Department of Dermatovenereology, West China Hospital, Sichuan University, Chengdu 610000, China, ⁷Department of Dermatology, Tianjin Medical University General Hospital, Tianjin 300052, China, ⁸Department of Dermatology and Venereology, The Second Affiliated Hospital of Xi'an Jiaotong University, Xi'an, Shanxi 710004, China, ⁹Department of Dermatology, Institute of Dermatology, Anhui Medical University, Hefei, Anhui 230032, China, ¹⁰Department of Dermatology, Peking University People's Hospital, Beijing 100044, China, ¹¹Skin Disease Hospital Affiliated to Shandong First Medical University, Jinan, Shandong 250022, China, ¹²Department of Dermatology, First Affiliated Hospital of Kunming Medical University, Kunming, Yunnan 650032, China, ¹³Department of Dermatology, The First Affiliated Hospital of Chongqing Medical University, Chongqing 400016, China, ¹⁴Department of Dermatology, Xiangya Hospital, Central South University, Changsha, Hunan 410008, China, ¹⁵Department of Dermatology, Ruijin Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai 200025, China, ¹⁶Department of Dermatology, Seventh Medical Center of PLA General Hospital, Beijing 100191, China, ¹⁷Department of Dermatology, Peking University First Hospital, Beijing 100034, China, ¹⁸Department of Dermatology, The Second Affiliated Hospital of Harbin Medical University, Harbin 150001, China, ¹⁹Department of Dermatology, The First Hospital of China Medical University, Shenyang 110001, China, ²⁰Department of Dermatology, Huashan Hospital, Fudan University, Shanghai 200040, China, ²¹Hospital for Skin Diseases (Institute of Dermatology), Chinese Academy of Medical Sciences and Peking Union Medical College, Nanjing, Jiangsu 210042, China, ²²Department of Dermatology, The First Affiliated Hospital of Fujian Medical University, Fuzhou, Fujian 350005, China, ²³Department of Dermatology, The Third Affiliated Hospital, Sun Yat-Sen University, Guangzhou, Guangdong 510630, China.

Abstract

The 2019 novel coronavirus infection has brought a great challenge in prevention and control of the national epidemic of coronavirus disease 2019 (COVID-19) in China. During the fight against the epidemic of COVID-19, properly carrying out pre-examination and triage for patients with skin lesions and fever has been a practical problem encountered in hospitals for skin diseases as well as clinics of dermatology in general hospitals. Considering that certain skin diseases may have symptom of fever, and some of the carriers of 2019 novel coronavirus and patients with COVID-19 at their early stage may do not present any symptoms of COVID-19, to properly deal with the visitors to clinics of dermatology, the Chinese Society of Dermatology organized experts to formulate the principles and procedures for pre-examination and triage of visitors to clinics of dermatology during the epidemic of COVID-19.

Keywords: 2019 novel coronavirus, fever, pre-examination, skin disease, triage

* Corresponding authors: Dr. Qian-Jin Lu, Department of Dermatology, The Second Xiangya Hospital, Central South University, Changsha, Hunan 410011, China. E-mail: qianlu5860@csu.edu.cn; Dr. Zhi-Rong Yao, Department of Dermatology, Xinhua Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai 200092, China. E-mail: dermatology.yao@sohu.com

[#]The Chinese version of this has been published on Chinese Journal of Dermatology, 2020,53(3):165-167. doi: 10.35541/cjd.20200119.

Conflicts of interest: The authors reported no conflicts of interest.

Copyright © 2020 Hospital for Skin Diseases (Institute of Dermatology), Chinese Academy of Medical Sciences, and Chinese Medical Association, published by Wolters Kluwer, Inc.

This is an open access article distributed under the terms of the Creative Commons Attribution-Non Commercial-No Derivatives License 4.0 (CCBY-NC-ND), where it is permissible to download and share the work provided it is properly cited. The work cannot be changed in any way or used commercially without permission from the journal.

International Journal of Dermatology and Venereology (2020) Vol:No

Received: 2 March 2020

doi: 10.1097/JD9.0000000000000084

Introduction

There are extensive concerns around the novel coronavirus (2019-nCoV) as the viral infection is spreading all around the world. As the members of the family of coronaviridae, the severe acute respiratory syndrome coronavirus¹ and Middle East respiratory syndrome coronavirus,² have caused more than 10,000 cumulative cases in the past two decades. Also, 2019-nCoV has led to more than 80,000 patients of novel coronavirus pneumonia and nearly 3000 deaths in the world, mainly in Hubei province of China. Health care workers and the public are facing an unprecedented challenge in prevention of these viral infections and cross infections. Considering the most common symptom of coronavirus disease 2019 (COVID-19) is fever, and many kinds of skin diseases are also accompanied by fever, properly carrying out pre-examination and triage for patients with skin lesions and fever has been a practical problem encountered in the hospitals for skin diseases and dermatology clinics in general hospitals. The Chinese Society of Dermatology organized experts to formulate the principles and procedures for pre-examination and triage of visitors to clinic of dermatology during outbreak of the 2019 novel coronavirus infection, so as to properly deal with the visitors to clinics of dermatology.

Set-up of pre-examination and personnel prospective measures of workers carrying in pre-examination and triage

A separate pre-examination should be set up for visitors to clinic of dermatology in hospitals for skin diseases and general hospitals with large number of visitors to dermatology clinics. Dermatologist should be involved in the pre-examination of patients presented with skin lesions and fever. The protective measures for personnel carrying in pre-examination include properly wearing disposable hat, work clothes, medical surgical masks or particulate protective masks, goggles, barrier gowns, and gloves.

Pre-examination

Each patient should be allowed at most one accompanying person when entering the clinic and mandatory masks are required for both patient and accompanying person. All patients and accompany persons should be tested for body temperature and investigated for the following information: (1) whether they have or had symptoms of fever, cough, and dyspnea in the past 2 weeks; (2) whether they had history of close contact with confirmed patients infected with 2019-nCoV or suspected cases, or a suspicious environmental exposure within 14 days before the visit; (3) whether there is a clustering onset of similar symptoms around the visitor. All visitors and accompanying persons should sign a letter of commitment of honest and be emphasized that they may bear legal consequences

if they provide false information or conceal any medical history, exposure history, and other needed information.

Triage

All visitors to dermatology clinics with any positive history of close contact and exposure to confirmed or suspected COVID-19 should be instructed to the fever clinic immediately before visiting dermatology clinics. For visitors to dermatology clinics with negative history of history of exposure to COVID-19, but have symptoms of fever (body temperature higher than 37.3°C), dermatologist should be involved in triage according to the following principles.

As we have already known, a variety of skin diseases may be accompanied by fever, which can be categorized into the three following types:

1) Skin diseases almost always accompanied by fever including: (1) viral infectious diseases, such as measles, rubella, exanthem subitem, hand-foot-mouth disease, infectious mononucleosis, chicken pox, and Kaposi varicelliform eruption; (2) bacterial infectious diseases, such as scarlet fever, staphylococcal scalded skin syndrome, erysipelas, cellulitis, and other serious infections of skin and soft tissues; (3) noninfectious diseases of the skin, such as severe drug eruption: acute generalized exanthematous pustulosis, Stevens-Johnson syndrome, toxic epidermal necrolysis and drug-induced hypersensitivity syndrome, generalized pustule psoriasis and erythrodermic psoriasis, Sweet disease, adult Still disease, Kawasaki disease, febrile ulceronecrotic pityriasis lichenoides et varioliformis acuta, and so on.

For these visitors with symptoms of have fever, they should be allowed to first visit a dermatology clinic, but only if they have negative of history of exposure to COVID-19. Considering possibility of drug eruptions in patients infected with 2019-nCoV after taking drugs, a more detailed history should be screened to exclude infection of 2019-nCoV including the reasons of taking drugs, the symptoms before taking medicine and the process of diagnosis and treatment, besides the history of exposure to COVID-19.

2) Skin diseases possibly accompanied by fever including: erythema infectiosum, mild to moderate drug eruption, erythema multiforme, erythrodermic atopic dermatitis, severe contact dermatitis, secondary bacterial infection in pemphigus and bullous pemphigoid, connective tissue disease such as systemic lupus erythematosus and dermatomyositis, Behcet disease, panniculitis and vasculitis, and so on.

For these visitors who have symptoms of fever, they should be allowed to visit dermatology clinic under extensive monitor, but only if they have negative of history of exposure to COVID-19. Also considering possibility of drug eruptions in patients infected with 2019-nCoV after taking drugs, a more detailed history should be screened to exclude infection of 2019-nCoV including the reasons of taking drugs, the symptoms before taking medicine and the

process of diagnosis and treatment, besides the history of exposure to COVID-19.

3) Skin diseases rarely accompanied by fever including: primary herpes simplex, herpes zoster, and some subtypes of urticaria such as serum sickness-like reaction, and so on.

For these visitors who have fever comparable with the diseases of the skin, they could be allowed to visit dermatology clinics, only if they have negative of history of exposure to COVID-19. Otherwise, they should be guided before fever clinic.

Previous study has shown that common symptoms of COVID-19 include fever (98%), cough (76%), dyspnoea (55%), and myalgia or fatigue (44%); less common symptoms are sputum production (28%), headache (8%), haemoptysis (5%), and diarrhoea (3%).³ There has never been a reported case of skin lesions of symptoms related to COVID-19 in the published literature.⁴⁻⁶ Although someone diagnosed a case of 2019-nCoV infection presented with fever and urticaria (not published). Therefore, we should pay attention to the rashes related to 2019-nCoV infection.

Considering some patients of COVID-19 may have uncertain or negative history of exposure to epidemic area or confirmed and suspected cases,⁷ all the dermatologists should recheck the patients' body temperature and make a thorough inquiry into their history

of exposure to 2019-nCoV infection when they interview a patient. Furthermore, all the medical staffs should always be vigilant to prevent 2019-nCoV infection during the process of pre-examination, triage, and medication in clinic.

References

- [1] Ksiazek TG, Erdman D, Goldsmith CS, et al. A novel coronavirus associated with severe acute respiratory syndrome. *N Engl J Med* 2003;348:1953–1966. doi:10.1056/NEJMoa030781.
- [2] Zaki AM, van Boheemen S, Bestebroer TM, et al. Isolation of a novel coronavirus from a man with pneumonia in Saudi Arabia. *N Engl J Med* 2012;367:1814–1820. doi:10.1056/NEJMoa1211721.
- [3] Huang C, Wang Y, Li X, et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *Lancet* 2020;395 (10223):497–506. doi:10.1016/S0140-6736(20)30183-5.
- [4] Wang D, Hu B, Hu C, et al. Clinical characteristics of 138 hospitalized patients with 2019 novel coronavirus - infected pneumonia in Wuhan, China. *JAMA* 2020;doi:10.1001/jama.2020.1585. [Online ahead of print].
- [5] Chang D, Lin M, Wei L, et al. Epidemiologic and clinical characteristics of novel coronavirus infections involving 13 patients outside Wuhan, China. *JAMA* 2020;doi:10.1001/jama.2020.1623. [Ahead of print].
- [6] Chen N, Zhou M, Dong X, et al. Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study. *Lancet* 2020;395 (10223):507–513. doi:10.1016/S0140-6736(20)30211-7.
- [7] Chan JF, Yuan S, Kok KH, et al. A familial cluster of pneumonia associated with the 2019 novel coronavirus indicating person-to-person transmission: a study of a family cluster. *Lancet* 2020;395 (10223):514–523. doi:10.1016/S0140-6736(20)30154-9.