Surgical diagnosis and treatment of esophageal cancer patients in the outbreak of new coronavirus pneumonia

Li Yong Qin Jianjun WangZhen Yu Yu Wen Yongyao Chen Xiankai Liu Weixin Li In

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Summary Since December 2019, Unexplained Pneumonia has arisen in Wuhan, Hubei Province, and was later diagnosed with a new type of coronavirus infection in 2019, and the outbreak has spread rapidly to other parts of the country and abroad. The outbreak of new coronavirus pneumonia has had a great impact on all walks of life, especially in the medical and health services, and also posed a great challenge to the diagnosis and treatment of cancer patients. Esophageal cancer is a common malignant tumor in China, most patients are in the middle and late stages of diagnosis, patients have low immunity, poor prognosis. For thoracic surgeons, the timely choice of surgery, and how to deal with the epidemic of esophageal cancer patients perioperative treatment, requires the joint efforts of all thoracic surgeons to develop a scientific thoracic surgery diagnosis and treatment process and emergency response.

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Since the end of December 2019, several cases of new coronavirus pneumonia (COVID-19) have been detected in Wuhan, Hubei Province, and spread rapidly to the whole country and abroad. China's health care industry and many other industries have been greatly affected, under the impact of the outbreak, the industry has also quickly developed a response strategy. The naming of COVID-19 has undergone several changes in a short period of time, the earliest caseof "unexplained fever with pneumonia", identified by laboratory genetic testing and virus isolation as the new coronavirus in 2019 (2019-nCoV)[1,2,3]The virus was later named SARS-CoV-2. On February 8, 2020, the National Health And Health Council referred to pneumonia with the new coronavirus virus as novel coronavirus pneumonia (novel coronavirus pneumonia, NCP), or new coronary pneumonia. On February 21, 2020, the National Health And Health Council named the new coronavirus pneumonia in English as COVID-19, in line with the World Health Organization.

As at 2400 hours on 22 February, 76,936 confirmed COVID-19 cases and 2,442 deaths had been reported[4], daily new confirmed cases and suspected infection cases gradually decline, but the local medical industry is still implementing a strict control policy, COVID-19 is classified as a Class B infectious disease, in accordance with the

Label Keywords

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management of Class A infectious diseases, it is expected that in the future, China will continue to implement a strict management system to prevent the spread of the epidemic, The new medical situation has a great impact on the traditional medical structure, and all medical institutions and specialties should adjust their strategies in due course to meet the demand for medical care in the society under the epidemic.

China is a large country of esophageal cancer, half of the world's esophageal cancer cases occurred in China, the latest according to the 2018 data from five continents, the estimated number of esophageal cancer cases in 2018 about 570,000, the number of deaths about 500,000. According to the latest statistics of our country, the incidence and mortality rate of esophageal cancer in China accounted for the 6th and 4th highest total malignant tumors in 2015.[5,6]。 Esophageal cancer patients generally find the disease late stage, poor prognosis, and to swallow difficulty, loss of nutrition as a feature, serious can appear esophageal obstruction, can not eat water through the mouth, therefore, under the epidemic prevention and control policy, for esophageal cancer patients should develop different from other parts of the tumor diagnosis and treatment strategy.

Studies have shown that the infection rate and mortality rate of 2019-nCoV in cancer patients is higher than normal, and that once infected, the disease will progress rapidly, with 1,590 COVID-19 cases as of 31 January 2020. 8 cases (1%) had a history of malignant tumors, the incidence of malignant tumors (1%) was higher than that of the national population (0.29%), and the risk of serious events in tumor patients was higher than in non-tumor patients (39% and 8%,*P*.000 3, respectively)[7]。 Therefore, COVID-19 will have a double impact on esophageal cancer patients: first, as a susceptible population will be directly attacked in 2019-nCoV, and second, because of the response to the COVID-19 outbreak of major public health emergencies, the government adopted a series of emergency response mechanisms on the treatment process of esophageal cancer patients.

1. Countermeasures to prevent COVID-19 in patients with out-of-hospital esophageal cancer:

In addition to responding to government initiatives to reduce out-of-office, not to crowd gathering places, to avoid contact with infected people, but also to cooperate with the local village management system, do a good job of self-testing and registration and reporting. In addition, esophageal cancer patients are more susceptible to the virus, need more stringent than the general population of their own protection: strictly prohibit edgy contact with all confirmed and suspicious COVID-19 patients, contact with foreign personnel must wear effective protective masks, contact with outsiders and objects must do a good job of hand disinfection, if necessary, do a good job of face cleaning and body flushing.

In addition, esophageal cancer patients due to gastrointestinal obstruction and the cancer itself consumption, about 70% of patients appear to lose weight and wasting, indicating nutritional deficiencies and the associated decline in immune function. Patients should strengthen nutritional intake, in addition to the daily diet rich and varied balance, but also recommend edgy diet at the same time oral supplement nutrition, daily not less than 500 Kcal, preferably high energy density (gt; 1.2 kcal/ml), high fat, high protein, and rich in omega-3 fatty acids of nutritional preparations. For the evaluation of nutritional effect, home patients with weight gain or weight maintenance before the disease does not decline as a simple self-test indicators, other indicators include physical improvement.

Patients should also increase the amount of drinking water, not less than 1,500 ml per day, regular rest, daily sleep not less than 7 h, daily appropriate physical exercise not less than 30 min, to enhance their immunity, better resistance to the virus may attack.

2．门诊就诊对策：

首先建议患者按就近原则选择医疗机构就诊，就诊患者必须正确佩戴口罩，倡导由1名家属陪同，遵守医疗机构疫情应急管理制度，如实告知2周内疫区旅行史、居住史和COVID-19患者接触史，如果有发热症状应服从医务人员安排转入发热门诊进一步诊治。需向患者和家属交待，食管癌发展过程较慢，排除发热病因过程和2周的隔离观察期，一般不会延缓治疗，缓解患者的紧张情绪，避免医患可能的误解和冲突。多数食管癌患者因下咽不顺症状就诊，发热、咳嗽较为少见。如门诊接诊医师发现患者有发热咳嗽症状，应第一时间进行上报。实行一患一室制度，除了术前常规检查外，特别强调必须申请当日血常规和胸部CT检查。如果发现无发热症状患者，但有双肺部炎症性阴影改变，应立刻按照制度进行上报，排除COVID-19[8]。根据食管癌患者就诊时的初步临床分期，给予相应处理。I期患者根据情况可选择手术治疗或内窥镜下切除术，II～III期患者可建议术前新辅助治疗，转入相应科室就诊，IV期患者转入内科和放疗科就诊[9]。对于已经完成术前新辅助治疗的患者，视医院制度限期或择期手术，如未能及时手术的患者，视病情可以追加1～2次化疗，或者给予术前营养支持，改善基础病，密切观察病情，继续等待手术日期。

如患者出现上腹不适、腹背疼、大便发黑等症状，可以再次检查评估病情进展，如仍选择手术治疗，可给予质子泵抑制剂、止疼药物和止血药物对症治疗。

3．住院患者手术前准备：

住院患者必须遵守COVID-19应急管理制度，建议择期手术（由主管医师评估，根据目前疫情可定为3个月以上不影响治疗效果的手术）推迟手术时间，限期手术应在住院后实行一患一室，术前隔离观察2周以上，每日至少2次观察体温。对于基础疾病较多或者体质较差患者，需纠正手术不利因素，充分完善术前准备，减少手术风险和术后住院时间，尽量避免患者术后并发症导致延迟出院。COVID-19病情变化迅速，且存在无症状2019-nCoV感染者，因此，术前应再次完善肺部CT、血常规、C-反应蛋白、降钙素原、甲型、乙型流行性感冒和血呼吸道5项病原体检查，术前应进行至少1次2019-nCoV核酸检测[10]。如果有疑似诊断，应立即中断手术计划，按照制度上报，确诊患者应转至隔离病房或转至定点医院行相关治疗，治愈后，经过再次评估后可继续治疗。对患者实行1人陪同制度，必须强调陪同人员按规定佩戴防护口罩，避免外出医院，禁止和外来人员直接接触，必要时陪同人员应按照规定检测体温和行相应检查。

4．特殊术前患者的管理：

食管癌患者多数因下咽不顺和消化道梗阻症状就诊，初次就诊时多是轻度梗阻，在等待手术和隔离观察期间，有患者会在短期内梗阻症状进展迅速，严重时只能进流食。新辅助治疗后也可能出现病情进展，梗阻症状加重。建议患者增加口服营养制剂，每日可由500 Kcal开始，增加至全肠内营养，也可适当补充静脉营养。可于就近医疗机构行门诊鼻饲管置入，首选鼻胃管，其次鼻肠管，保证营养补充，优选高能量密度（>1.2 kcal/ml）、高脂、高蛋白，并且富含ω-3脂肪酸的营养制剂。在保证营养的前提下，应尽快手术进行治疗。

极少数患者会突然出现滴水不进，可能是由于食物堵塞狭窄部位，引起的急性食管梗阻所致，居家患者可短时间观察，暂时禁食水，慎重选择大量饮水呕吐排出堵塞物。如仍不能自通，可就近到医疗机构急诊接受胃镜取异物治疗，疏通食管。

食管癌患者可出现出血、瘘等急症，应视严重程度分别处理。出血量不大、瘘口不大、全身症状不明显患者，可以选择对症保守治疗，中等以上的出血可选择介入下止血或急症手术；瘘口引起全身感染症状重的患者，要积极抗炎引流，待病情稍平稳后行急症手术。急症手术应按照疫情应急制度处理，除外同时合并新冠病毒的感染。

5．术中管理：

鉴于目前疫情按照甲类传染病管理，建议手术尽可能选择负压手术室，禁止参观人员进入，减少手术室内人员出入和流动，尽量使用一次性医疗用品，佩戴带面屏口罩；手术过程中，需要做好患者血液、分泌物和排泄物的防护处理。如急症食管癌患者术前已经诊断或者疑似COVID-19，手术过程中，医护人员的防护应严格按照三级防护标准，主刀外科医师和洗手护师，在无菌服外应穿着一次性防护服、一次性手术袍、防护拖鞋和鞋套，佩戴医用防护口罩、护目镜或防护面屏、至少双层手套。手术室管理按照传染疾病手术管理，尤其对患者的血液、体液、排泄物和病理标本进行双密封袋封闭进行销毁和送检，手术室使用后应严格消毒，经感染管理科采样检测合格后方能再次使用[11]。

6．术后管理：

术后管理是重要的环节，无论是对患者的快速康复，还是受当前疫情应急机制的影响程度，食管癌均为相对特殊的一个疾病。食管癌手术非常复杂，常见的手术方式涉及颈胸腹3个部位，手术时间一般在3 h以上，创伤大，尤其心肺影响大，恢复较慢，住院时间长，并发症相对较多。食管癌术后发生肺炎的比例高达21%，常会有发热，除单纯性肺部感染外，术后胸腔感染、吻合口瘘、腹腔感染、切口感染和肠道感染均会引起发热[12]。术后由于经历了手术和麻醉，患者的免疫力下降，也会有上呼吸道普通病毒感染，伴有发热。大多数食管癌患者术后发热首先考虑细菌感染，白细胞多数升高，这类并发症往往有明确原因，如胸腔感染、瘘、切口感染等，对症抗炎引流会有好转。如果发生普通病毒感染，会出现发热及白细胞正常的表现，要警惕与COVID-19鉴别诊断。对于无发热症状患者，术后胸部CT或者胸片如果出现双肺炎症，也要注意与COVID-19鉴别，必要时行2019-nCoV核酸检测明确诊断。

术后医师和护士团队同等重要，护理人员必须做好患者和家属的宣教工作，监督患者和家属严格遵守诊疗制度和疫情应急制度，严格管理探视和陪护制度，尤其要切断病房以外输入性2019-nCoV的感染，从根本上切断感染源。医护人员自身做好防护，加强手消毒、全程佩戴口罩，有条件要使用一次性防护服。

医护人员要合理安排手术计划，制定科学的值班制度，避免劳累，管理好细节，尤其对于护理团队轮班制度一定要合理安排，在护理患者的同时，也要全天无死角做好人员出入流动管理，提高病房消毒次数，保证手消毒液摆放点满足医患人员使用的需求。

新冠病毒感染后潜伏期一般为14 d，但有研究显示，有个别患者潜伏期长达19 d，也有早期感染者无发热表现，甚至胸部CT无异常表现，病毒核酸检测假阴性，对于COVID-19，人们仍缺乏经验，任何时候都不可以掉以轻心[13]。要坚持病房异常指标尤其是发热的上报制度，必要时由感染科协助查房巡视患者。

疫情期间，患者术后的常规护理更加重要，保证患者休息、止疼，保证患者营养充分和水电解质平衡，促进患者快速康复，促进免疫能力恢复。对于食管癌患者术后的饮食，仍提倡优选高能量密度（>1.2 kcal/ml）、高脂、高蛋白，并且富含ω-3脂肪酸的营养制剂进行全肠内营养，必要时配合肠外脂肪乳营养，证据证明以上营养可以促进患者快速康复、提高免疫力[14]。

对于无发热患者，仍应每日2次监测体温，注意呼吸道症状，术后前3 d每日复查血常规、C-反应蛋白和降钙素原。一旦出现疑似症状，一方面做好与流感病毒、腺病毒、呼吸道合胞病毒和其他肺部支原体感染的鉴别，进行快速抗原检测和多重PCR核酸检测，对常见呼吸道病毒进行检测；另一方面可以进行2019-nCoV核酸检测。

对于疑似病例患者，经本院专家或者主诊医师会诊后仍考虑疑似病例的，应该在2 h内上报，并在保证安全的前提下转运到定点医院进行治疗，隔离密切接触的陪护和医护人员。

7．患者和医务人员的心理干预：

COVID-19是一场突如其来的重大突发公共卫生事件，随之采取的一系列应急响应措施，对医疗卫生事业和人们的生活工作方式造成了巨大改变，加之发病初期医学对疾病认识的不确定性，对其防控局势变化的不明确性，势必给人群造成很大的心理影响。加之食管癌患者对自身疾病的恐惧和绝望，必会产生很大的心理压力，从而表现为一系列的身心变化，包括认知、情绪、生理和行为4个方面。认知和情绪会表现为多疑、敏感、偏执、恐慌、焦虑和沮丧等心理变化，生理上会表现为疾病症状加重，如胸闷、心慌、胃部不适、食欲差、失眠等症状，在行为上表现为反复要求测体温和医学检查、不相信医学检查、不配合医务人员工作、过分依赖家人或医师、容易激动、言语过激。

患者以上的心理变化会加重疾病负担，影响治疗过程和效果；甚至会造成医患之间冲突和纠纷，不利于疫情应急制度的顺利实施。针对此种情况，医务人员应该充分认识到患者和家属的心理压力，运用共情的心理干预知识，更加重视宣教和心理疏导，共同抗击疫情和疾病，必要时请专业精神科医师干预。我国专业精神科医师数量不足，应对重大事故的心理危机干预体制还有待完善[15]。为此，国家卫生健康委员会于1月27日印发了《新型冠状病毒感染的肺炎疫情紧急心理危机干预指导原则》，并于2月2日和2月7日相继印发了《关于设立应对疫情心理援助热线的通知》和《新型冠状病毒肺炎疫情防控期间心理援助热线工作指南》，为疫情期间的心理卫生服务工作提供了政策支持和指导依据[16]。我国31个省、自治区和直辖市的医疗机构、大学和学术团体的心理健康专业人员已广泛建立了在线心理咨询服务，适合疫情期间在线心理健康教育和在线心理危机干预，与此同时，也建议临床一线医务人员不但要及时关注疫情信息，向患者传递正确乐观的抗疫理念，也应接受简单的心理知识培训，运用心理手段更好地开展工作。

疫情之下医务人员战斗在第一线，同样面临巨大的心理压力，一项涉及1 563名医务人员的多中心调查显示，有抑郁症状的人为50.7%，焦虑为44.7%，失眠为36.1%。有关COVID-19预防的控制和心理健康教育的几本书已迅速出版，医务人员可以主动学习，必要时在线进行心理咨询和干预，正确面对疫情，认识疾病发展规律，保持身心健康，更好地为患者服务[17]。

总之，COVID-19疫情蔓延虽然趋于稳定，但形势仍然严峻，还需严密防控，防止疫情大面积扩散。全体医护人员和患者一起共同面对，构造防疫长城，各专业也应该及时制定本专业应急制度，科学面对疫情，正确处理患者正常医疗需求，最终战胜疫情和肿瘤。

利益冲突 所有作者均声明不存在利益冲突

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