

· 临床研究 ·

急诊就诊 53 例吸入性肺炎的临床特征及治疗方案分析

宋开元, 张向阳, 段敏, 王琰, 张陈光, 吴圣, 冯莉莉, 宋琳琳, 陈旭岩*

(清华大学附属北京清华长庚医院急诊科)

【摘要】 目的 分析由误吸继发细菌感染引起的吸入性肺炎的发病特征、病原菌特点及治疗方案, 为临床诊断及治疗吸入性肺炎提供依据。**方法** 选取 2019 年 11 月至 2020 年 7 月就诊于北京清华长庚医院急诊科并确诊为吸入性肺炎的 53 例患者的临床资料。根据病原学结果, 将患者分为革兰氏阴性(G^-)菌组 44 例和革兰氏阳性(G^+)菌组 9 例。收集患者人口学资料、实验室指标、病原学检测结果、抗生素使用情况及有效性等数据。采用 SPSS 25.0 统计软件进行数据分析。根据数据类型, 组间比较分别采用 t 检验、秩和检验、Fisher 确切概率法或 χ^2 检验。**结果** 本研究患者平均年龄 (79.94 ± 1.86) 岁。77.4% (41/53) 的患者存在神经功能障碍, 主要临床表现为发热、呼吸困难、意识障碍和咳嗽, 分别占比 37.7% (20/53)、28.3% (15/53)、20.8% (11/53) 和 13.2% (7/53)。2 组患者在神经功能障碍以及疾病严重程度方面比较, 差异有统计学意义 ($P < 0.05$)。 G^- 菌组菌株主要为肺炎克雷伯菌 [52.3% (23/44)]、铜绿假单胞菌 [29.5% (13/44)] 及大肠埃希菌 [18.2% (8/44)], G^+ 菌组菌株主要为纹带棒状杆菌 [22.2% (2/9)] 及金黄色葡萄球菌 [77.8% (7/9)]。重症组主要以肺炎克雷伯菌感染为主 [51.3% (20/39); $\chi^2 = 9.102, P = 0.036$]。在抗生素选择中, 含 β -内酰胺酶抑制剂的抗生素药物头孢哌酮-舒巴坦的初始治疗有效率最高 [90.0% (18/20); $\chi^2 = 14.95, P = 0.011$]。**结论** 吸入性肺炎多见于老年患者, 尤其是存在神经系统功能障碍患者。 G^- 菌是主要病原体, 以肺炎克雷伯菌为最常见。抗生素治疗是有效的治疗方案, 含 β -内酰胺酶抑制剂的抗生素可作为抗感染治疗的一线选择。

【关键词】 吸入性肺炎; 革兰氏阴性菌; 肺炎克雷伯菌; β -内酰胺酶抑制剂; 肺炎严重指数

【中图分类号】 R563.1

【文献标志码】 A

【DOI】 10.11915/j.issn.1671-5403.2022.12.200

Clinical characteristics and treatment methods of 53 patients diagnosed with aspiration pneumonia Abstract

SONG Kai-Yuan, ZHANG Xiang-Yang, DUAN Min, WANG Yan, ZHANG Chen-Guang, WU Sheng, FENG Li-Li, SONG Lin-Lin, CHEN Xu-Yan*

(Department of Emergency, Beijing Tsinghua Changgung Hospital, Tsinghua University, Beijing 102218, China)

【Abstract】 Objective To analyze the characteristics of aspiration pneumonia caused by aspiration secondary bacterial infection, the characteristics of pathogenic bacteria and the treatment plan, so as to provide basis for clinical diagnosis and treatment of aspiration pneumonia. **Methods** The clinical data of 53 patients who were diagnosed with aspiration pneumonia in the emergency department of Beijing Tsinghua Changgung Hospital from November 2019 to July 2020 were selected. According to the results of etiology, the patients were divided into 44 cases of Gram negative (G^-) bacteria group and 9 cases of Gram positive (G^+) bacteria group. Collect patient demographic data, laboratory indicators, pathogen detection results, antibiotic use and effectiveness and other data. SPSS statistics 25.0 was used for data analysis. According to data type, t-test, rank sum test, Fisher exact probability method or Chi-square test was applied. **Results** The average age of patients in this study was (79.94 ± 1.86) years. 77.4% (41/53) of the patients had neurological dysfunction, and the main clinical manifestations were fever, dyspnea, disturbance of consciousness and cough, accounting for 37.7% (20/53), 28.3% (15/53), 20.78% (11/53) and 13.2% (7/53) respectively. There was a statistically significant difference between the two groups in terms of neurological dysfunction and disease severity ($P < 0.05$). The strains in the G^- group were mainly *Klebsiella pneumoniae* [52.3% (23/44)], *Pseudomonas aeruginosa* [29.5% (13/44)] and *Escherichia coli* [18.2% (8/44)], while the strains in the G^+ group were mainly *Corynebacterium striatum* [22.2% (2/9)] and *Staphylococcus aureus* [77.8% (7/9)]. The severe group was mainly infected by *Klebsiella pneumoniae* [51.3% (20/39)]; $\chi^2 = 9.102, P = 0.036$. In terms of efficacy evaluation, the initial effective rate of cefoperazone sulbactam, an antibiotic including β -lactamase inhibitor, was the highest [90.0% (18/20); $\chi^2 = 14.95, P = 0.011$]. **Conclusion** Inhalation pneumonia is more common in elderly patients, especially those with

收稿日期: 2022-06-22; 接受日期: 2022-09-09

通信作者: 陈旭岩, E-mail: cxya00559@btch.edu.cn

- reserve in essential hypertension [J]. *Nephrol Dial Transplant*, 2000, 15(8): 1162–1169. DOI: 10.1093/ndt/15.8.1162.
- [4] Sharma A, Mucino MJ, Ronco C. Renal functional reserve and renal recovery after acute kidney injury [J]. *Nephron Clin Pract*, 2014, 127(1-4): 94–100. DOI: 10.1159/000363721.
- [5] Chou YH, Chen YM. Aging and renal disease: old questions for new challenges [J]. *Aging Dis*, 2021, 12(2): 515–528. DOI: 10.14336/AD.2020.0703.
- [6] Kushner P, Peach E, Wittbrodt E, *et al.* Investigating the global prevalence and consequences of undiagnosed stage 3 chronic kidney disease: methods and rationale for the REVEAL-CKD study [J]. *Clin Kidney J*, 2021, 15(4): 738–746. DOI: 10.1093/ckj/sfab235.
- [7] Fliser D, Zeier M, Nowack R, *et al.* Renal functional reserve in healthy elderly subjects [J]. *J Am Soc Nephrol*, 1993, 3(7): 1371–1377. DOI: 10.1681/ASN.V371371.
- [8] Argyropoulos A, Townley S, Upton PM, *et al.* Identifying on admission patients likely to develop acute kidney injury in hospital [J]. *BMC Nephrol*, 2019, 20(1): 56. DOI: 10.1186/s12882-019-1237-x.
- [9] Chang-Panesso M. Acute kidney injury and aging [J]. *Pediatr Nephrol*, 2021, 36(10): 2997–3006. DOI: 10.1007/s00467-020-04849-0.
- [10] Miller WG, Kaufman HW, Levey AS, *et al.* National kidney foundation laboratory engagement working group recommendations for implementing the CKD-EPI 2021 race-free equations for estimated glomerular filtration rate: practical guidance for clinical laboratories [J]. *Clin Chem*, 2022, 68(4): 511–520. DOI: 10.1093/clinchem/hvab278.
- [11] Husain-Syed F, Ferrari F, Sharma A, *et al.* Preoperative renal functional reserve predicts risk of acute kidney injury after cardiac operation [J]. *Ann Thorac Surg*, 2018, 105(4): 1094–1101. DOI: 10.1016/j.athoracsur.2017.12.034.
- [12] Sharma A, Zaragoza JJ, Villa G, *et al.* Optimizing a kidney stress test to evaluate renal functional reserve [J]. *Clin Nephrol*, 2016, 86(7): 18–26. DOI: 10.5414/CN108497.
- [13] Fuhrman DY. The role of renal functional reserve in predicting acute kidney injury [J]. *Crit Care Clin*, 2021, 37(2): 399–407. DOI: 10.1016/j.ccc.2020.11.008.
- [14] Fuiano G, Sund S, Mazza G, *et al.* Renal hemodynamic response to maximal vasodilating stimulus in healthy older subjects [J]. *Kidney Int*, 2001, 59(3): 1052–1058. DOI: 10.1046/j.1523-1755.2001.0590031052.x.
- [15] Jufar AH, Lankadeva YR, May CN, *et al.* Renal functional reserve: from physiological phenomenon to clinical biomarker and beyond [J]. *Am J Physiol Regul Integr Comp Physiol*, 2020, 319(6): R690–R702. DOI: 10.1152/ajpregu.00237.2020.
- [16] Rojas-Canales DM, Li JY, Makuei L, *et al.* Compensatory renal hypertrophy following nephrectomy: when and how? [J]. *Nephrology (Carlton)*, 2019, 24(12): 1225–1232. DOI: 10.1111/nep.13578.
- [17] Musso CG, Reynaldi J, Martinez B, *et al.* Renal reserve in the oldest old [J]. *Int Urol Nephrol*, 2011, 43(1): 253–256. DOI: 10.1007/s11255-010-9769-9.
- [18] Delanaye P, Glasscock RJ, De Broe ME. Epidemiology of chronic kidney disease: think (at least) twice! [J]. *Clin Kidney J*, 2017, 10(3): 370–374. DOI: 10.1093/ckj/sfw154.
- [19] Liu P, Quinn RR, Lam NN, *et al.* Accounting for age in the definition of chronic kidney disease [J]. *JAMA Intern Med*, 2021, 181(10): 1359–1366. DOI: 10.1001/jamainternmed.2021.4813.
- [20] Sackmann H, Tran-Van T, Tack I, *et al.* Renal functional reserve in IDDM patients [J]. *Diabetologia*, 1998, 41(1): 86–93. DOI: 10.1007/s001250050871.
- [21] 中华医学会肾脏病学分会专家组. 糖尿病肾脏疾病诊断、预后评估和生物标志物应用专家共识 [J]. *中华肾脏病杂志*, 2022, 38(8): 771–784. DOI: 10.3760/cma.j.cn441217-20220106-00112.
Expert Group of Chinese Society of Nephrology. Expert consensus on diagnosis, prognosis assessment and application of biomarkers in diabetic kidney disease [J]. *Chin J Nephrol*, 2022, 38(8): 771–784. DOI: 10.3760/cma.j.cn441217-20220106-00112.
- [22] van Londen M, Schaeffers AWMA, de Borst MH, *et al.* Overweight young female kidney donors have low renal functional reserve postdonation [J]. *Am J Physiol Renal Physiol*, 2018, 315(3): F454–F459. DOI: 10.1152/ajprenal.00492.2017.

(编辑: 和雨璇)