· 临床病例讨论 ·
Clinicopathological Conference

An old male patient with short breath and nocturnal paroxysmal dyspnea

(the 31st case)

Institute of Geriatric Cardiology, Chinese PLA General Hospital

Case presentation

The patient, a 94-year-old man, was admitted to the hospital on Aug. 11, 2008 because of exertional dyspnea for 1 year, which was aggravated for 9 days.

Present history: One year ago, the patient began to experience chest distress and shortness of breath on exertion, the symptoms could resolve after rest. After that his activity endurance decreased gradually, and dyspnea occurred after he walked up two flights of stairs. One week before admission, nocturnal paroxysmal dyspnea developed, accompanied by chest distress and sweating. He coughed and expectorated moderate amount of white sputum daily. The patient visited our hospital for treatment and was admitted to this department with the diagnosis of cardiac dysfunction. Since he was sick, he had no evidence of abdominal distension, oliguria or edema of face and lower extremities.

Past history: He had a history of hypertension for 6 years. His blood pressure fluctuated in the range of 140-150/60-70mmHg after treatment with metoprolol. He suffered from gastric ulcer 20 years ago and had been cured. Cholecystectomy was performed in 1999 because of cholecystolithiasis. He denied any history of communicable disease such as hepatitis, tuberculosis. He has smoked a package of cigarettes daily for 50 years. He drank little. He was married, and has no history of hereditary diseases.

On examination, the temperature was 36.5°C, the blood pressure 150/70 mmHg, the pulse 75 beats per minute, respiration rate 28 per minute. He was conscious and cooperative, and could answer all questions. No cyanosis of lips. No engorgement of jugular veins. A small amount of moist rales could be heard over both lung fields on auscultation. The heart on percussion was found to be enlarged to the left , cardiac rhythm was regular at 75 per minute. At the apex, there was a grade-Ⅲ/Ⅳ blowing systolic murmur transmitting outwards to the left axilla. The abdomen was flat. There was a well healed surgical scar in the right upper quadrant. The liver was palpated 3cm below the right costal margin and was firm without tenderness. Hepatojugular reflux was negative. There were no shifting dullness and edema of legs.

The primary diagnoses were chronic heart failure with grade-Ⅲ/Ⅵ heart dysfunction, coronary heart disease with unstable angina pectoris, hypertension.

After admission, laboratory tests were performed and the results were as follows: the blood routine: WBC 9.09×10^9/L, N 0.652, HB 146g/L, RBC 4.7×10^{12}/L, platelet 294×10^9/L, brain natriuretic peptide (BNP) 9127ng/L, urea nitrogen 9.62mmol/L, creatinine 97.1μmol/L. Chest radiograph was normal. The electrocardiogram (Fig 1, p525) showed sinus rhythm, left anterior branch block and complete right bundle branch block. On

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作者单位:100853 北京市,解放军总医院老年心血管研究所
作者简介:李佳月,女,1974年10月生,辽宁省锦州市人,医学硕士,主治医师。Tel:010-66939329

the second hospital day, the patient abruptly experienced chest pain associated with palpitation and nausea, the pain radiated to his back. Several minutes later, shortness of breath and orthopnea developed. At that time, physical examination found that, the temperature was 37.5°C, the blood pressure 156/70 mmHg, the respiration rate 30 per minute and the pulse 105 beats per minute. The lips were slightly cyanotic. Auscultation found medium amount of moist rales and wheeze on both lung fields, cardiac rhythm was regular at 105 per minute. The electrocardiogram and cardiac enzyme had no change. Treatment of acute heart failure was given immediately, including high-flow O_2, sublingual nitroglycerin, cedilanid 0.2mg and diprophylline 0.25g intravenously. Approximately 30 min later, the patient's symptoms resolved. The blood routine examination was performed once more and found that WBC was 18.83×10^9/L and N was 0.883. Blood gas analysis found pH 7.46, PO_2 53.7mmHg, PCO_2 23.6mmHg, SaO_2 89.7%, HCO_3 16.4mmol/L and BE 5.8mmol/L. Blood biochemical examination found urea nitrogen 5.34 mmol/L and creatinine 118.7μmol/L. Tranthoracic echocardiogram showed left ventricular hypertrophy and no left ventricular segmental wall motion abnormalities. The ejection fraction was 65%, E/A< 1, left ventricular diastolic function decreased. Chest X-ray film(Fig 2, p525) showed mild plaque-like shadow in the right lower lobe. After that, the patient had productive cough and aggravation of dyspnea. His sputum changed from white frothy to purulent. Cefminox and moxifloxacin were given intravenously for controlling infection, sodium nitroprusside and dopamine were pumped according to his blood pressure, diuretic and cardiocinetic were administered intermittently. His condition still had no change, including moist rales over both lung fields, leukocytosis with a left shift. Considering that his pulmonary infection was not well controlled, cefminox and moxifloxacin were discontinued and meropenem was initiated on Aug. 16th. The microbiologic culture of sputum showed *Candida tropicalis* on Aug. 16th and Aug. 18th. Several sputum smears showed spores and hyphae of fungus. Fluconazole was administered. After treatment for 1 week, the symptoms were much improved with no dyspnea at rest or after light activities. Rales at the base of lung disappeared, blood routine indexes turned to be normal. So intravenous drug was discontiuned, ACEI and β-blockers were given orally. He was discharged after stay in the hospital for 47 days.

Discussion

Doctor LI Jiayue: I would like to talk about the characteristics and the diagnosis of pulmonary infection in senile patient. Pneumonia is one of frequently encountered diseases in the elderly, and its clinical manifestation may be atypical, so the diagnosis is often missed or mistaken. When the patient is correctly diagnosed, the patient's condition is often serious, and case fatality rate is high. The greatest specificity of this case is a man of advanced age. On our ward, the patients over 90 years old accounted for about 1% of all patients in one year. The organ functions of patients of advanced age like this patient are seriously deteriorated, and the responsiveness of organism is insufficient. Atypical clinical manifestation makes the diagnosis and treatment difficult.

There are several characteristics about pneumonia in aged people: (1) The senile pneumonia are mostly toxic type, in other words, the shock type. (2) The most common type of senile pneumonia is bronchopneumonia. (3) The manifestation of pneumonia in the elderly is not obvious. (4) Pneumonia in the elderly often coexists with cerebrovascular disease, cardiovascular disease, diabetes or other diseases; these diseases are serious, which often hide symptoms of pneumonia, and make it not easily found. (5) The X-ray detection rate of senile pneumonia is low; X-ray examination is the most reliable means for diagnosis of pneumonia, but it is not very reliable in senile pneumonia. Murakami compared the diagnosis of pneumonia by X-ray and pathological anatomy in 51 cases of elderly pneumonia, and found that pneumonia could be

considered by X-ray manifestation only in 37 cases. (6) The incidence of pneumonia in the elderly is high, because of the declined resistance to disease, immunologic hypofunction and hypofunction of stress. (7) Mortality rate of pneumonia in the elderly is high. It was reported that in the ten leading causes of death in the elderly, pneumonia ranked first, the mortality rate was 28%. The elderly often have multi-organ diseases , so they are apt to develope multi-system organ failure and death after the occurrence of pneumonia. Therefore, for elderly patients with suspected lung infection, the whole-body characteristics of patients should be grasped, which can lead to the subjective judging accordant with the actual conditions.

Doctor TIAN Jinwen: Dr. Li sums up the characteristics of pneumonia in the elderly very clearly, I agree with Dr. Li. This patient possesses these characteristics: (1) Elderly male patient. (2) History of coronary heart disease. (3) Before admission to our hospital the patient had manifestation of heart failure and laid in bed with high pillow at home. The activity endurance decreased. (4) After admission, the symptoms of pneumonia were atypical, such as the body temperature was not high, symptoms of cough were not obvious, sputum was not voluminous, wet rales which could be heard in the condition of heart failure were detected at the bases of lungs, the rale was difficult to be differentiated from that in heart failue. (5) The chest X-ray film did not indicate lung infection clearly. (6) The disease developed fast, acute left ventricular failure happened on the second day after admission, the blood routine examination showed WBC count increased to 18.38×10^9/L; neutrophils were elevated to 0.883; the symptoms of cough and asthma were aggravated. (7) Renal insufficiency emerged rapidly. On the second hospital day serum creatinine rose to 118.7μmol/L. (8) The state of multiple organ insufficiency emerged rapidly, which made treatment complicated and contradictory. (9) Internal environment became relatively unstable with electrolyte disorders, acid-base imbalance, and deterioration of the nutritional status. It was reported in literature that the mortalily of the patients with three organ failure for longer than a week approximated 100%, therefore the patient was in a very dangerous situation.

Treatment must take integrated, comprehensive approach, including anti-infection, enhancing myocardial contractile force, diureses, reducing the load of the heart, protecting kidney function, improving the oxygen supply, maintenance of electrolyte and acid-base balance, cardiac nutrition, adequate energy supply, and expectorating phlegm. Drug side effects should be observed carefully and the treatment should be adjusted in time, the cardio-pulmonary resuscitation measures such as endotracheal intubation, breathing machine assisted respiration should be ready at any time. The therapeutic efficacy of the patient showed that the patient's condition was held accurately and timely, the comprehensive treatment rescued the patient from the state of organ failure , and made him recover and discharged eventually. This is a successful example of treatment of the multiple organ insufficiency in the elderly.

Doctor LU Caiyi: This is a very typical case of multiple organ insufficiency in elderly patient, 94-year-old, hinted that his major organs were on the brink of exhaustion, the strike by any disease can make the critical state of organ function decompensate and enter the failure period. The valuable experience in this patient is correctly differentiate his condition in the early stage, especially the early diagnosis of lung infection, and early decisive treatments have great significance for his recovery. The symptoms of respiratory tract in many elderly patients with pulmonary infection are not typical. In this case heart insufficiency was outstanding, while heart failure was just caused or aggravated by lung infection. The heart and kidney functions of the patient have already been in a critical state which was aggravated by pulmonary infection, leading to the sequential organ failure. This was the outstanding characteristics that the multiple organ insufficiency was triggered by lung in this

case. As Dr. Tian just mentioned, for the better treatment, the patient's physical state as a whole should be considered, so that the patient's MOF can be corrected. The function of any organ would influence the function of other organs, especially if the patient develops renal failure, it is often the watershed of good or poor prognosis of multiple organ insufficiency. Because of timely treatment, the patient kidney function recoverd rapidly. The lessons we should get is that correctly differentiate his condition as a whole was still not early enough, the potential risk of lung infection was estimated not enough in a very old elderly, and some treatments were not early enough. Otherwise, if we blocked the development of MOF before it appeared, the patient would get more benefits.

(Translator: LI Jiayue)

老年男性气短、夜间阵发性呼吸困难1例

1 病例摘要

患者男性，94岁，主因"劳累性呼吸困难1年，加重9d"于2008年8月11日入院。患者1年前劳累后出现胸闷、气短，休息后症状缓解。此后活动耐量逐渐下降，上二层楼后出现气短。入院前1周患者出现夜间阵发性呼吸困难，伴有胸闷、出汗，并出现咳嗽、咳中等量白色黏液性痰，为进一步诊治来我院，门诊以心功能不全收入院。患者自发病1年以来无腹胀、少尿，无颜面及双下肢浮肿。

既往史：既往有高血压病史6年，一直口服倍他乐克，血压波动于140～150/60～70mmHg。20年前患胃溃疡，已治愈，1999年因胆囊结石行胆囊切除术。否认肝炎、结核等传染病病史。吸烟50余年，20支/d，无饮酒史，适龄结婚，爱人孩子均健康。无家族遗传病史。

查体：体温36.5℃，脉搏75次/min，呼吸28次/min，血压150/70mmHg，神志清楚，自动体位，查体合作。口唇无发绀，无颈静脉怒张，双肺底可闻及少量湿性啰音。心浊音界向左扩大，心率75次/min，心尖部可闻及3/6级收缩期吹风样杂音，向左腋下传导。腹平坦，右上腹可见一手术疤痕，肝于右肋下3cm可触及，肝-颈静脉回流征阴性，移动性浊音阴性。双下肢无水肿。

入院诊断：(1)慢性心功能不全，心功能3级；(2)冠心病，不稳定型心绞痛；(3)高血压病3级。

诊疗经过：入院后完善相关检查：血常规：白细胞9.09×10⁹/L，中性粒细胞0.652，血红蛋白146g/L，红细胞4.7×10¹²/L，血小板294×10⁹/L。脑钠素9127ng/L；生化：尿素氮9.62mmol/L，肌酐97.1μmol/L。胸片检查未见明显异常。心电图(图1)：窦性心律，左前分支传导阻滞伴有完全性右束支传导阻滞。入院后第2天突然出现胸痛、背部疼痛，为闷痛，伴有心慌、恶心，随后出现呼吸困难，端坐呼吸。当时查体：体温37.5℃，脉搏105次/min，呼吸30次/min，血压156/70mmHg。口唇轻发绀，双肺可闻及中量痰鸣音及湿啰音，心率105次/min，律齐。急查心电图及心肌酶无动态改变，考虑为急性左心衰，立即给予高流量吸氧、硝酸甘油片含服、喘定0.25g，毛花苷C 0.2mg，滴斗入，30min后症状缓解。急查：血常规：白细胞18.38×10⁹/L，中性粒细胞0.883；生化：血糖7.14mmol/L，尿素氮8.3mmol/L，甘油三酯3.23mmol/L。血气分析：pH 7.46，氧分压53.7mmHg，二氧化碳分压23.6mmHg，氧饱合度89.7%，实际碳酸氢根16.4 mmol/L，剩余碱−5.8mmol/L，生化：尿素氮5.34 mmol/L，肌酐118.7μmol/L。胸片(图2)检查提示右下肺斑片状阴影。超声心动图检查：左室肥厚，左室收缩功能正常，各节段收缩运动正常，射血分数65%，E/A<1，左室舒张功能减退。此后，患者咳嗽、咳痰、气短加重，为黄色黏液性痰，端坐呼吸，给予头孢米诺钠及盐酸莫西沙星控制感染，根据血压持续泵入硝普钠、多巴胺，间断利尿及强心治疗，患者病情无明显改善，双肺仍有啰音，复查血常规白细胞仍高，考虑患者感染控制不理想，8月16日改为美罗培南，8月17日及18日2次痰培养提示热带念珠菌感染；多次痰涂片查到真菌孢子及菌丝，8月19日加用氟康唑。患者经过上述治疗1周，症状明显好转，休息及轻微活动后无气短，双肺啰音消失，血常规恢复正常，故停止静脉用药，加用血管紧张素转换酶抑制剂，β-受体阻断剂。患者共住院47d，病情好转出院。

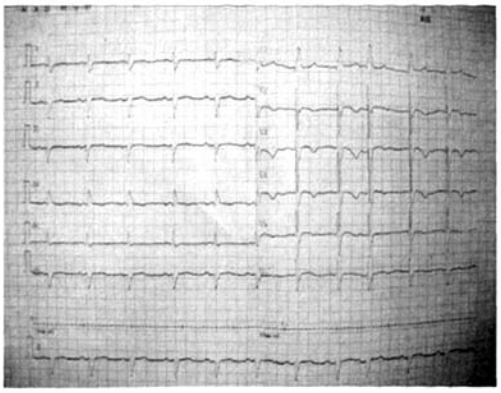

图1 窦性心律，左前分支传导阻滞伴有完全性右束支传导阻滞

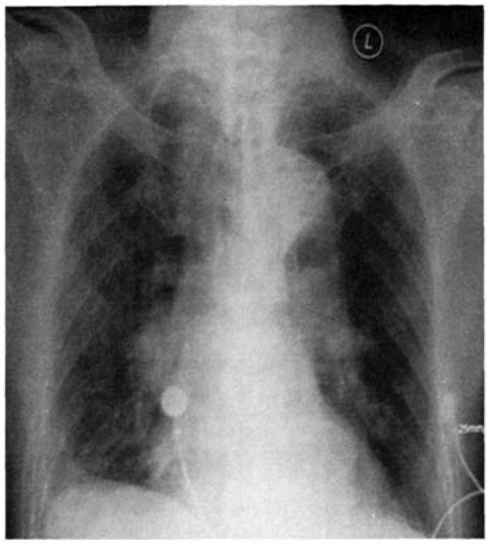

图2 右下肺斑片状阴影

2 临床病理讨论

李佳月：我主要谈一下老年患者肺部感染的特点和诊断。肺炎为老年人常见的疾病之一，临床表现可不典型，往往容易被误诊或漏诊，待发现时病情常较严重，病死率高。本病例的最大特殊性在于，患者高龄，在本科室病房，90岁以上患者总数约占全年患者数的1%。如此高龄患者的脏器功能都处于一个十分衰退的阶段，机体反应性差，非典型的临床表现为诊断、治疗带来困难。

老年人肺炎的特点大致有下几方面：(1)老年肺炎以中毒型，即休克性肺炎多。(2)老年肺炎类型最多的是支气管肺炎。(3)老年肺炎的症状表现不明显。(4)老年肺炎常与脑血管病、心血管病、糖尿病或其他疾病并存，这些疾病又很重，故常常使肺炎症状被掩盖，而不易被发现。(5)老年肺炎X线检出率低：X线检查是肺炎最可靠的诊断手段，但对老年肺炎则无如此可靠结果。日本学者村上元孝对51例老年肺炎部位的X线诊断与病理解剖结果对比观察，结果只有37例X线照片上考虑有肺炎。(6)老年肺炎发病率高，与全身抵抗力下降，免疫功能低下，应激机能减退等综合内在因素有关。(7)老年肺炎死亡率高。据有关资料报道，在老年十大死因中肺炎占首位，死亡率为28%，加之老年人常有多器官疾病，故发生肺炎后极易导致多系统器官衰竭而死亡。因此，对于高龄患者可疑有肺部感染的要把握患者整体特点，全方位、综合、客观判断才能与患者的实际病情相符合。

田进文：李医生把老年肺炎的特点总结得很清楚了，同意李医生的观点。该患者恰恰具有上述特点。(1)高龄男性；(2)既往有冠心病病史；(3)入院前患者出现心功不全表现，家中高枕卧位，活动耐量下降；(4)患者入院后肺炎症状不典型，表现为体温不高，咳嗽症状不明显，痰量不多，双肺底可闻及湿啰音，但与心衰的啰音很难明确鉴别；(5)胸片未明确提示肺部感染；(6)病情发展快，入院后第2天出现急性左心衰，血常规示白细胞升高至18.38×10^9/L；中性粒细胞为0.883；咳喘症状加重；(7)患者肾功能不全加重，第1天血肌酐97.1μmol/L升至118.7μmol/L；(8)患者迅速出现多器官功能不全状态，这使治疗变得复杂、矛盾；(9)内环境也出现相对不稳定，电解质紊乱，酸碱平衡失调，营养状况变差。文献报道3个脏器衰竭1周以上的患者死亡率接近100%。因此，患者处于一个十分危险的境地。

治疗上必须综合考虑、全面入手，包括抗感染、增强心肌收缩力、利尿、减轻心脏负荷、保护肾功能、改善氧供、维持电解质及酸碱平衡、心肌营养、充足的能量供给、化痰，密切观察药物不良反应及时调整用药，并随时准备好如气管插管、呼吸机辅助呼吸等心肺复苏措施。从治疗效果上看，对病情的把握是准确的、及时的，这些综合的治疗，挽救了患者衰竭的器官功能，使其转危为安，最终康复出院，是一例成功的老年多器官功能不全的救治。

卢才义：这是一例非常典型的老年多器官功能不全的患者，94岁的高龄加上长期慢性疾病引起患者身体器官储备或代偿功能濒临耗竭，任何急性疾病的打击均可使处于临界状态的器官功能出现失代偿而进入衰竭期。对这一患者病情的判断贵在一个早字，特别是肺感染的早期诊断、果断治疗，对于疾病的恢复有着决定性的意义。很多老年肺感染的患

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INR上升速度较快，提示其对华法林较为敏感，则华法林剂量增减应更为慎重，有时INR接近标准高限时（如INR2.9）即应开始减量，而不是等INR过高后才调整剂量。因此，华法林的初始剂量和INR上升速度是与监测密度有关的问题，如果初始剂量较大或INR上升速度较快，应额外增加监测次数。

5 监测华法林的意义

由于华法林有潜在出血危险、药理作用受多种食物和药物影响等特点，其监测具有非常重要的意义。临床医师只有本着认真负责的态度，向广大AF患者宣传、普及抗栓治疗的重要性和华法林抗凝的方法、注意事项和常识，使应用华法林抗凝的患者INR达标而不超标，才能使AF患者最大程度地受益于华法林，实现良好的效益/危险比，真正减少和预防卒中的发生。而不及时监测、盲目错误地应用华法林可能使效益/危险比大大下降。因此，正确使用华法林是关系到应用华法林抗凝以预防卒中事件成败的关键，而华法林监测则是其中重要的一环。

参考文献

[1] Petersen P. Thromboembolic complications in atrial fibrillation. Stroke, 1990,21:4-13.

[2] Lin HJ, Wolf PA, Kelly-Hayes M, et al. Stroke severity in atrial fibrillation. The Framingham Study. Stroke, 1996, 27:1760-1764.

[3] Lip GY, Hart RG, Conway DS. Antithrombotic therapy for atrial fibrillation. Br Med J, 2002, 325: 1022-1025.

[4] Fuster V, Ryden LE, Cannom DS, et al. ACC/AHA/ESC 2006 guidelines for the management of patients with atrial fibrillation——executive summary: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines and the European Society of Cardiology Committee for Practice Guidelines (Writing Committee to Revise the 2001 Guidelines for the Management of Patients With Atrial Fibrillation). J Am Coll Cardiol, 2006, 48: 854-906.

[5] 孙艺红，胡大一. 华法林对中国人心房颤动患者抗栓的安全性和有效性研究. 中华内科杂志，2004,43: 258-260.

[6] Yamaguchi T. Optimal intensity of warfarin therapy for secondary prevention of stroke in patients with nonvalvular atrial fibrillation : a multicenter, prospective, randomized trial. Japanese Nonvalvular Atrial Fibrillation-Embolism Secondary Prevention Cooperative Study Group. Stroke, 2000,31:817-821.

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者呼吸道症状不典型，本例患者突出地表现为心功能不全，而这种心功能不全恰恰是肺感染所引发或加重的。肺启动多器官功能不全的特点在这一患者身上体现的十分突出。患者心、肾功能已处于一个临界状态，患者肺部感染引发了序贯的器官功能衰竭，诊断上是明确的。治疗上正如田医生所谈到的，要全方位考虑患者的身体状态，全方位调整才能纠正患者的多器官衰竭，任何一个器官功能都会对其他器官功能产生影响，特别是患者出现了肾功能不全，这常常是多器官功能不全预后好坏的一个分水岭，由于治疗及时、恰当，患者的肾功能得到迅速和有效的恢复。需要吸取的教训是，对病情的早期判断仍然不够早，对于一个肺部感染的极高龄的老年人所潜在的危险在入院时估计得还不足，处理得还不够早，如能在出现多器官衰竭之前就阻断它的发展，则患者会获益更多。

（参加讨论医师：李佳月、田进文、卢才义）

（李佳月 整理）