

- 1995, 16 (6): 198-204.
- [8] Harada N, Okajima K, Uchiba M. Dalteparin, a low molecular weight heparin, attenuates inflammatory responses and reduces ischemia-reperfusion-induced liver injury in rats [J]. Crit Care Med, 2006, 34 (7): 1883-1891.
- [9] Morrison AM, Wang P, Chaudry IH. A novel nonanticoagulant heparin prevents vascular endothelial cell dysfunction during hyperdynamic sepsis [J]. Shock, 1996, 6 (1): 46-51.
- [10] Li X, Zheng Z, Li X, et al. Unfractionated heparin inhibits ipopolysaccharide-induced inflammatory response through blocking p38 MAPK and NF- $\kappa$ B activation on endothelial cell [J]. Cytokine, 2012, 60 (1): 114-121.
- [11] 马金孝, 海克蓉, 胡红玲. 肝素对心肺复苏后大鼠心肌 MDA 含量和 SOD 活性的影响 [J]. 宁夏医科大学学报, 2013, 35 (2): 126-129.
- [12] 王白永, 孙仁华, 屈百鸣, 等. 肝素对家兔心肺复苏后炎症因子的影响研究 [J]. 中国全科医学, 2013, 16 (11): 3935-3938.
- [13] Deepa PR, Varalakshmi P. Protective effect of low molecular weight heparin on oxidative injury and cellular abnormalities in adriamycin-induced cardiac and hepatic toxicity [J]. Chem Biol Interact, 2003, 146 (2): 201-210.
- [14] 廖红, 叶青山, 施伟忠. 肝素对大鼠心肺复苏效果及脑组织 SOD、MDA 含量的影响 [J]. 宁夏医学院学报, 2008, 30 (3): 291-292.
- [15] Yao L, Wang P, Chen M, et al. Carbon monoxide-releasing molecules attenuate postresuscitation myocardial injury and protect cardiac mitochondrial function by reducing the production of mitochondrial reactive oxygen species in a rat model of cardiac arrest [J]. Cardiovasc Pharmacol Ther, 2015, 20 (3): 330-341.
- [16] 陈军. 低分子肝素联合尿激酶溶栓治疗心源性脑梗死的疗效观察 [J]. 实用心脑血管病杂志, 2014, 22 (8): 87-88.
- [17] Eastwood GM, Young PJ, Bellomo R. The impact of oxygen and carbon dioxide management on outcome after cardiac arrest [J]. Curr Opin Crit Care, 2014, 20 (3): 266-272.
- [18] Yu TG, Zhang QZ, Zhang ZG. Protective effect of ultra low molecular weight heparin on glutamate-induced apoptosis in cortical cells [J]. Yonsei Med J, 2008, 49 (3): 486-495.
- [19] Taha MO, Ferreira RM, Taha NS. Heparin modulates the expression of genes encoding pro and anti-apoptotic proteins in endothelial cells exposed to intestinal ischemia and reperfusion in rats [J]. Acta Cir Bras, 2014, 29 (7): 445-449.
- [20] Matyal R, Grinberg AO, Panzica PJ, et al. Heparin administration during cardiopulmonary resuscitation [J]. Cardiothorac Vasc Anesth, 2008, 22 (6): 861-863.
- [21] Iwashita Y, Yukimitsu M, Matsuduki M, et al. Use of a fixed, body weight-unadjusted loading dose of unfractionated heparin for extracorporeal cardiopulmonary resuscitation [J]. Intensive Care, 2015, 3 (1): 33.
- [22] Schneider A, Albertsmeier M, Böttiger BW, et al. Post-resuscitation syndrome. Role of inflammation after cardiac arrest [J]. Anaesthesist, 2012, 61 (5): 424-436.
- [23] Zhao G, Seng J, Beagle J, et al. Heparin reduces overcirculation-induced pulmonary artery remodeling through P38 MAPK in Piglet [J]. Ann Thorac Surg, 2015, 99 (5): 1677-1684.
- [24] Zhang S, Zhai Z, Yang Y, et al. Long-term treatment with low-molecular-weight heparin prolonged the survival time for acute pulmonary embolism patients concurrent with malignancy: An observational analysis from a long-term follow-up study [J]. Thrombosis Research, 2015, 135 (4): 582-587.
- [25] Laporte S, Bertolotti L, Romera A, et al. Long-term treatment of venous thromboembolism with tinzaparin compared to vitamin K antagonists: a meta-analysis of 5 randomized trials in non-cancer and cancer patients [J]. Thromb Res, 2012, 130 (6): 853-858.
- [26] Han Y, Li CS, Su ZY, et al. Effects of norepinephrine on kidney in a swine model of cardiopulmonary resuscitation [J]. Am J Emerg Med, 2011, 29 (7): 731-737.
- [27] Chua HR, Glassford N, Bellomo R. Acute kidney injury after cardiac arrest [J]. Resuscitation, 2012, 83 (6): 721-727.

(收稿日期: 2015-10-15; 修回日期: 2016-01-13)

(本文编辑: 谢武英)

## · 指南 · 共识 · 标准 ·

# 卒中并发肺炎研究组专家共识 ——卒中相关性肺炎的诊断

卒中患者并发的下呼吸道感染 (LRTI) 既往常被冠以不同名称, 如胸腔感染、卒中相关性肺炎 (SAP)、吸入性肺炎或卒中后肺炎等, 且诊断标准不一。卒中并发肺炎研究组专家共识 (PISCES) 对 SAP 的诊断标准进行了明确, 具体如下。

★建议将行非机械通气治疗的卒中患者在发病 7 d 内新出现的肺炎统称为 SAP。

★住院卒中患者在发病 7 d 后新出现的肺炎应归为医院获得性肺炎 (HAP), 而针对行机械通气治疗的卒中患者新出现的肺炎则建议采用现有的 VAP 诊断标准。

★临床症状 (如咳嗽、脓痰)、体征 (如发热、呼吸急促) 或实验室检查 (如白细胞计数、C 反应蛋白) 诊断 SAP 均缺乏特异性。鉴于目前尚无明确的临床或实验室检查诊断标准, 故建议采用改良的美国疾病预防控制中心 (CDC) 肺炎诊断标准 (改良 CDC 肺炎诊断标准) 作为 SAP 的诊断标准。

★根据有无典型的胸部影像学表现可将符合改良 CDC 肺炎诊断标准的患者分为确诊病例和疑诊病例, 而对于初期缺乏典型胸部影像学表现的疑诊病例, 需在 2 d 后再次进行胸部影像学检查。

★用于鉴别诊断 SAP 确诊病例和疑诊病例的改良 CDC 肺炎诊断标准尚需高质量的前瞻性研究进一步验证; 临床表现、肺部超声检查和生物学标志物检测对 SAP 的诊断价值及其对抗生素治疗时机的判定、预后的预测等也有待于进一步研究验证。

(来源: 丁香园)