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重度颅脑损伤患者并发肺部感染的病原菌及耐药性研究

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摘要 目的:观察重度颅脑损伤患者并发肺部感染的病原菌特点及耐药性,为临床诊治提供参考依据。**方法**:对我院 2010 年 2 月~2012 年 2 月收治的 62 例重度颅脑损伤患者的病例资料进行回顾性分析,观察其病原菌分布特点及药敏检查结果。**结果**:重度颅脑损伤患者 62 例,发生肺部感染者 28 例,肺部感染发生率 45.16%。共分离病原菌 31 株,其中革兰阴性杆菌 21 株,占 67.74%;革兰阳性球菌 6 株,占 19.35%;真菌 4 株,占 12.9%。经药敏试验分析,革兰阴性杆菌对亚胺培南高度敏感;革兰阳性球菌对利福平、万古霉素、呋喃妥因高度敏感。经单因素分析,气管切开操作史、住院天数延长、基础疾病、休克、呼吸机使用均是导致重度颅脑损伤发生肺部感染的危险因素(P<0.05)。**结论**:重度颅脑损伤患者并发肺部感染病原菌以革兰阴性杆菌为主,临床发生率较高,针对病原菌特点采用敏感抗生素对提高治疗效果具有重要作用。

关键词:重度颅脑损伤;肺部感染;病原菌;耐药性

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Pathogens and Drug Resistance in Patients of Severe Craniocerebral Injury Combined with Pulmonary Infection

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ABSTRACT Objective: To observe the characteristics of pathogens and drug resistance in patients of severe craniocerebral injury combined with pulmonary infection, provide the references for clinical diagnosis and treatment. **Methods:** A retrospective analysis was carried on the 62 severe craniocerebral injury patients who were admitted in our hospital between February 2010 and February 2012, and the distribution of pathogens and drug sensitivity characteristics of inspection were analyzed. **Results:** In 62 patients with severe craniocerebral injury, pulmonary infection were found in 28 cases, the rate of pulmonary infection was 45.16%. A total of 31 strains of pathogens were isolated, including 21 strains of gram negative bacilli, accounting for 67.74%; 6 strains of gram positive coccus, accounting for 19.35%; 4 strains of fungi, accounted for 12.9%. By the analysis of drug susceptibility test, gram negative bacilli were highly sensitive to imipenem; gram positive cocci to rifampin, vancomycin, nitrofurantoin, highly sensitive, univariate analysis, tracheotomy operation history, the length of hospitalization, underlying diseases, shock, the use of respirator were risk factors of severe brain injury combined with pulmonary infection (P<0.05). **Conclusion:** Gram-negative bacilli were the main infection pathogens of severe craniocerebral injury complicated by pulmonary, with high incidence rate . It is important to apply sensitive antibiotics, according to the characteristics of pathogenic bacteria to improve the therapeutic effect.

Key words: Severe craniocerebral injury; Pulmonary infection; Pathogen; Drug resistance

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重度颅脑损伤是常见的神经外科危重症,其肺部感染是较为严重的并发症,较单纯颅脑损伤病情重,临床处理较为复杂,致残致死率高[1],患者常需进入 ICU 监护治疗。笔者在工作期间对近年来收治的颅脑损伤患者的临床资料进行回顾性分析,旨在了解重型颅脑损伤后肺部感染的病原菌构成及耐药情况,以提高临床抗菌药物经验治疗的水平,现将结果报告如下:

1 资料与方法

1.1 临床资料

本组患者共 62 例,均为我院 2010 年 2 月 ~2012 年 2 月期间收治的重度颅脑损伤患者。其中男 38 例,女 24 例。基础疾病情况:原发性高血压 11 例,糖尿病史 8 例,器质性疾病 16 例。ICU 时 GCA 评分 3~8 分,平均 5.4 分。所有患者中肺部感染 28 例,其中男 22 例,女 6 例。年龄 16~78 岁,平均年龄(55.13 龄重度颅脑损)岁,均符合合并肺部感染的诊断标准,所有患者入院治疗前均进行全面系统的检查,格拉斯哥(GCS)评分均在 3~8 分间,平均评分达(5.46± .46 达)分。肺部感染临床表现为痰多、呼吸加快、肺内闻及湿性罗音、体温升高等[2]。基础疾病情况:原发性高旭呀病史 14 例、糖尿病史 10 例、器质性疾病 8 例。

1.2 方法

细菌学检查留取痰液采用一次性吸痰管经气管插管或气

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管切开至气管分叉下采集分泌物标本[3-5]。用法国梅里埃公司研制的 VITEK-32 全自动细菌鉴定及药敏测试仪进行细菌培养鉴定及药敏试验,同一患者的相同菌种标本,若收集时间在同一周内,视为同一菌株,不作重复统计。

1.3 统计学方法

所有数据均采用 SPSS13.0 统计学软件进行分析,计数资料以百分率表示,采用卡方检验,以 P<0.05 为差异有统计学意义。

2 结果

2.1 重度颅脑损伤合并肺部感染的发生情况

本院在 2010 年 2 月 ~2012 年 2 月期间共收治重度颅脑损伤患者 62 例,发生肺部感染者 28 例,肺部感染发生率 45.16%。

2.2 肺部感染病原菌的培养情况

28 例重度颅脑损伤合并肺部感染的患者共分离病原菌 31 株,其中革兰阴性杆菌 21 株,占 67.74%;革兰阳性球菌 6 株,占 19.35%;真菌 4 株,占 12.9%。经药敏试验分析,革兰阴性杆菌对亚胺培南高度敏感;革兰阳性球菌对利福平、万古霉素、呋喃妥因高度敏感,病原菌分布情况见表 1。

表 1 重度颅脑损伤合并肺部感染的病原菌分布情况

Table 1 Distribution of pathogenic bacteria of severe craniocerebral injury combined with pulmonary infection

病原菌 Pathogenic bacteria	株数 Number	构成比 Constituent ratio
革兰阴性杆菌 Gram-negative bacilli	21	67.74
铜绿假单胞菌 Pseudomonas aeruginosa	9	29.03
肺炎克雷伯菌 Klebsiella pneumoniae	4	12.9
大肠埃希菌 Escherichia coli	5	16.13
产气肠杆菌 Enterobacter aerogenes	2	6.45
鲍氏不动杆菌 Acinetobacter baumannii	1	2.5
革兰阳性球菌 Gram positive cocci	6	19.35
金黄色葡萄球菌 Staphylococcus aureus	3	9.67
表皮葡萄球菌 Staphylococcus aureus	2	6.45
肺炎链球菌 Streptococcus pneumoniae	1	3.23
真菌 Fungus	4	12.9
白色假丝酵母菌 Candida albicans	3	9.67
曲霉菌属 Aspergillus	1	2.5

2.3 重度颅脑损伤合并肺部感染的危险因素

本组危险因素分析中,气管切开 11 例,占 68.75;住院天数≥ 住院天者 12 例发生肺部感染,占 66.67%;基础疾病史 13 例,占 68.42%;休克者 12 例,占 70.59%;呼吸机应用 12 例,占 92.31%。

经单因素分析,气管切开操作史、住院天数延长、基础疾病、休克、呼吸机使用均是导致重度颅脑损伤发生肺部感染的危险因素(P<0.05)。见表 2。

表 2 重度颅脑损伤合并肺部感染危险因素分析

Table 2 Analysis of the risk factors of severe craniocerebral injury complicated with pulmonary infection

危险因素 Risk factors	赋值 Assignment	例数 n	肺部感染 Pulmonary infection	P 值 P value
气管切开 Incision of trachea	Yes	16	11(68.75)	<0.05
	No	46	7(15.22)	
住院天数≥ 院天数≥ Hospitalization days ith puyes	18		12(66.67)	<0.05
	No	44	16(36.36)	
基础疾病 Basic diseases	Yes	19	13(68.42)	<0.05
	No	43	15(34.88)	
休克 Shock	Yes	17	12(70.59)	<0.05
	No	45	16(35.56)	
呼吸机应用 Application of ventilator	Yes	13	12(92.31)	<0.05
	No	49	16(32.65)	

3 讨论

重度颅脑损伤是神经外科常见的危重症,肺部感染是其较为严重的并发症,也是后期死亡的主要原因之一,较单纯颅脑损伤病情重,临床处理较为复杂,致残致死率高[6-8]。据相关资料报道[9],70%以上重型颅脑损伤患者 3~5 天出现肺部感染,严重影响脑微循环,导致病情不断恶化。本组研究中对其危险因素进行分析,结果显示,经单因素分析,气管切开操作史、住院天数延长、基础疾病、休克、呼吸机使用均是导致重度颅脑损伤发生肺部感染的危险因素(P<0.05)。其主要发病机制与重型颅脑

损伤造成机体体抗力下降，呼吸系统纤毛清除能力下降或丧失，保护屏障消失有关[10-14]。同时，颅脑损伤患者呼吸中枢抑制使潮气量下降，分泌物潴留，造成呼吸道局部免疫防御功能受损。呼吸道上皮细胞表面纤维连接结合蛋白减少，使上呼吸道机会致病菌或其他病原菌得以繁殖为肺部感染的发生提供了条件[15,16]。昏迷、休克、侵入性诊疗操作、均是造成呼吸道屏障受损，病原菌侵入下呼吸道的重要因素。同时由于临床长期不合理使用广谱抗生素造成菌群失调或二重感染而使机体防御力下降发生肺部感染[17,18]。在本组研究中，对肺部感染病菌均进行分离，结果显示，28 例重度颅脑损伤合并肺部感染的患者共分离病原菌 31 株，其中革兰阴性杆菌 21 株，占 67.74%；革兰阳性球菌 6 株，占 19.35%；真菌 4 株，占 12.9%。可见革兰阴性杆菌中以金黄色葡萄球菌为主，原则上临床用药应以细菌培养及药敏结果为依据。经药敏试验分析，革兰阴性杆菌对亚胺培南高度敏感；革兰阳性球菌对利福平、万古霉素、呋喃妥因高度敏感。在临床治疗过程中，应在细菌培养结果出来之前给予经验性抗生素，及时应对防治病情加重而引起其他并发症。

综上所述，重度颅脑损伤患者并发肺部感染病原菌以革兰阴性杆菌为主，临床发生率较高，针对病原菌特点采用敏感抗生素对提高治疗效果具有重要作用。

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