影響腸病毒感染重症通報確診病例之因子 ---以法定傳染病通報系統為例

Factors of Influence for Confirming Severe Enterovirus Infection in the Reporting System — The Example of Mandatory Communicable Disease Reporting System

中文摘要

臺灣自 1998 年爆發腸病毒 71 型大流行，造成多七十多名嬰帅兒死亡後，每年早春至早秋都會出現腸病毒疫情流行。腸病毒感染患者有些會伴隨嚴重的併發症(無菌性腦膜腦炎、肺水腫、急性心肌炎)，其中又以五歲以下的帅兒是腸病毒感染重症的高危險群。腸病毒感染重症死亡率大約在 10.0％至 25.7％之間。許多國家也都有疫情流行的報告，包括美國、澳洲、法國、新加坡、香港、日本、馬來西亞、瑞典、保加利亞、匈牙利等十七個國家。疾病管制局為了預防腸病毒再度造成大流行，因此將腸病毒感染重症列為第二級法定傳染病，醫師若發現疑似病例必頇依法進行即時通報並進行確診，加強疫情的追蹤。

本研究使用疾病管制局的 1999~2008 法定傳染病通報系統資料庫進行分析。主要探討在「法定傳染病通報系統」中影響腸病毒感染重症通報病例的確診因子，包括醫院層級、醫師看診行為、疾病特性，與病人特質。使用描述性檢定、卡方檢定及邏輯斯迴歸探討各變項間對疑似病例確診的影響程度。

研究結果顯示，在 26111 例疑似病例中，共有 1503 例為確診病例、1084 例為非腸病毒感染重症病例，因此整體的診斷正確率為 58.1％，而診斷正確率也逐年增加。病人特質中，年齡與居住地區對腸病毒確診有顯著關係；在醫師看診行為、就醫醫院層級和疾病表現對影響腸病毒確診亦有顯著影響。 而通報系統亦能有效監測流行之趨勢。

英文摘要

Background: Since the 1998 outbreak of Enterovirus 71 type infection in Taiwan, a large-scale pandemic would take place between early March and the beginning of autumn every year, which was causing panic all over Taiwan. The children under five years old have become the most vulnerable ones infected with severe complications such like aseptic meningitis, pulmonary edema and acute myocarditis, which even caused approximately 10% to 25.7% of those infected children died. Not only in Taiwan, but seventeen countries including U.S.A, France and Australia have severe enterovirus infection outbreak. The Centers of Disease Control, Taiwan has listed the severe enterovirus infection as the secondary mandatory communicable disease and

established an instant notification system for tracing the epidemic situation; the doctors who found the infected case have to inform, report, confirm the case and trace the situation in order to prevent the epidemic of enterovirus infection. This research focuses on what factors in Mandatory Communicable Disease Reporting System could help doctors confirm who the real case is for severe enterovirus infection. Methods: Secondary data was used in this research. Variables analyzed included patient characters, hospital level, physician's behavior for treatment, and disease characters from 1999~2008 Mandatory Communicable Disease Reporting System Database. There are 2611 suspected cases in the reporting system. Descriptine analysis, chi-square test, and logistic regression were applied to explore relationships between independent variables and confirmed cases of severe enterovirus infection. Results:There are 1503 confirmed cases of severe enterovirus infection and 1084 non-severe enterovirus infection cases according to the reporting system. We found the diagnosis accuracy rate is 58.1%. After calculating the diagnosis accuracy rate each year, the proportion has the tendency to rise gradually every year. In comparing with all variables, there is a significant difference among hospital levels (P<0.01), especially medical center has a higher accuracy rate then local hospital (45.1% vs. 1.4%, OR=1.4). Physician's behavior is also significant. The other results show that season and the county where patients lived are both positively related to the rate of confirmed cases of severe enterovirus infection cases. Conclusions: These results should be taken into account when the public health policies are reviewed. The research shows the part of factors in Mandatory Communicable Disease Reporting System could do preliminary confirming, and it can also monitor the epidemic tendency effectively.