

一、請詳細閱讀附件研究論文摘要，回答下列問題。(15%)

1. 請簡述本研究的研究問題為何？(5%)
2. 請以本研究為例說明 case-control study 與 case-series analysis 的差異。(5%)
3. 請問這個研究的對照組如何選擇？(5%)

BACKGROUND

After the introduction of an inactivated intranasal influenza vaccine that was used only in Switzerland, 46 cases of Bell's palsy were reported.

METHODS

We conducted a matched case-control study and a case-series analysis. All primary care physicians, ear, nose, and throat specialists, and neurologists in German-speaking regions of Switzerland were requested to identify cases of Bell's palsy diagnosed in adults between October 1, 2000, and April 30, 2001. Each physician was invited to select three control patients for each patient with Bell's palsy, with matching according to age, date of the clinic visit, and physician. Vaccination information was provided by the physicians.

RESULTS

A total of 773 patients with Bell's palsy were identified. Of the 412 (53.3 percent) who could be evaluated, 250 (60.7 percent) were enrolled and matched with 722 control patients; the other 162 patients had no controls. In the case-control study, we found that 68 patients with Bell's palsy (27.2 percent) and 8 controls (1.1 percent) had received the intranasal vaccine ($P < 0.001$). In contrast to parenteral vaccines, the intranasal vaccine significantly increased the risk of Bell's palsy (adjusted odds ratio, 84.0; 95 percent confidence interval, 20.1 to 351.9). Even according to conservative assumptions, the relative risk of Bell's palsy was estimated to be 19 times the risk in the controls, corresponding to 13 excess cases per 10,000 vaccinees within 1 to 91 days after vaccination. In the case-series analysis, the period of highest risk was 31 to 60 days after vaccination.

CONCLUSIONS

This study suggests a strong association between the inactivated intranasal influenza vaccine used in Switzerland and Bell's palsy. This vaccine is no longer in clinical use.

(背面仍有題目,請繼續作答)

本試題是否可以使用計算機：可使用，不可使用（請命題老師勾選）

考試日期：0301，節次：3

二、請詳細閱讀附件研究論文摘要，回答下列問題。(15%)

4. 請簡述本研究的研究問題為何？(5%)
5. 請以本研究為例說明 retrospective cohort 與 prospective cohort 的差異。(5%)
6. 許多人批評 cohort study 的缺點之一就是「流失」(loss follow-up)，請問您覺得這個研究「流失」問題嚴不嚴重？(5%)

BACKGROUND

Recently, the Food and Drug Administration (FDA) issued an advisory stating that atypical antipsychotic medications increase mortality among elderly patients. However, the advisory did not apply to conventional antipsychotic medications; the risk of death with these older agents is not known.

METHODS

We conducted a retrospective cohort study involving 22,890 patients 65 years of age or older who had drug insurance benefits in Pennsylvania and who began receiving a conventional or atypical antipsychotic medication between 1994 and 2003. Analyses of mortality rates and Cox proportional-hazards models were used to compare the risk of death within 180 days, less than 40 days, 40 to 79 days, and 80 to 180 days after the initiation of therapy with an antipsychotic medication. We controlled for potential confounding variables with the use of traditional multivariate Cox models, propensity-score adjustments, and an instrumental-variable analysis.

RESULTS

Conventional antipsychotic medications were associated with a significantly higher adjusted risk of death than were atypical antipsychotic medications at all intervals studied (≤ 180 days: relative risk, 1.37; 95 percent confidence interval, 1.27 to 1.49; < 40 days: relative risk, 1.56; 95 percent confidence interval, 1.37 to 1.78; 40 to 79 days: relative risk, 1.37; 95 percent confidence interval, 1.19 to 1.59; and 80 to 180 days: relative risk, 1.27; 95 percent confidence interval, 1.14 to 1.41) and in all subgroups defined according to the presence or absence of dementia or nursing home residency. The greatest increases in risk occurred soon after therapy was initiated and with higher dosages of conventional antipsychotic medications. Increased risks associated with conventional as compared with atypical antipsychotic medications persisted in confirmatory analyses performed with the use of propensity-score adjustment and instrumental-variable estimation.

CONCLUSIONS

If confirmed, these results suggest that conventional antipsychotic medications are at least as likely as atypical agents to increase the risk of death among elderly persons and that conventional drugs should not be used to replace atypical agents discontinued in response to the FDA warning.

三、問答題 (70%)

- (一)、請以 John Snow 對於倫敦霍亂大流行所做研究為例，說明何謂流行病學 (epidemiology)? [10%]
- (二)、某一村落的人口為 4,400 人，其中有 125 人感染痢疾桿菌。這 125 人分別來自 87 個家戶，這 87 個家戶共有 436 人。請計算：
1. 該村落的整體罹病侵襲率? [5%]
 2. 假如每戶一位原始發病者，請問二次侵襲率是多少? [5%]
 3. 這疾病是否很平均地分布在整個人口群? [5%]
- (三)、以 SARS 為例說明何謂公共衛生監測 (public health surveillance)? 建立公共衛生監測系統 (public health surveillance) 的目的及用途? [15%]
- (四)、如果某一小學共有約 1,500 人，於開學第二天開始陸續有 100 位學生因急性胃腸炎到醫院就醫，其中有二十學生的糞便中檢出痢疾桿菌 (*Shigella sonnei*)，你將如何進行流行病學調查以找出病源及傳染途徑? [15%]
- (五)、請說明何謂新興及再浮現傳染病 (emerging and re-emerging infectious diseases)? 一旦發生新興及再浮現傳染病流行時，你認為應如何防治? 請提出至少三種策略。[15%]