



The Olympic Rings - Vancouver 2010



PIC QUESTION OF THE WEEK: 2/15/10

Q: Can the influenza vaccine affect INR values in patients receiving warfarin?

A: The Advisory Committee on Immunization Practices (ACIP) of the Centers for Disease Control and Prevention recommends that adults 50 years and older receive an annual influenza vaccine. Many patients in this age group are simultaneously being treated with warfarin because of atrial fibrillation, pulmonary embolism, recurrent DVT, and mechanical and prosthetic heart valves. A number of individual reports and case series describe a possible interaction between warfarin and influenza vaccine. In these cases, patients developed extremely elevated INR or prothrombin time (PT) values within four weeks after vaccine administration. Several drug interaction screening programs also identify a possible risk with this combination. A specific mechanism for the interaction has not been identified. Neither of the CDC's ACIP guidelines on immunization practices for prevention and control of seasonal influenza or influenza A (H₁N₁) includes any reference to potential interaction between warfarin and influenza vaccines. A 2009 case report described fatal intracranial hemorrhage in a patient administered influenza vaccine while being treated with warfarin. The authors further investigated this issue by reviewing previously published studies describing the potential interaction. The majority of studies concluded there was no interaction between warfarin and influenza vaccine and no significant change in INR values. A retrospective study was published in 2007 that included > 5,000 patients who had been on stable, long-term warfarin therapy. There was no significant effect on INR measured within two to four weeks after administration of influenza vaccine. Interestingly, a significant number of these patients had a slightly reduced INR two weeks after vaccination. A prospective, case-control study performed in 2003 evaluated patients on stable, long-term warfarin therapy. It identified a significant increase in INR (average of 0.56) in the 90 patients who were vaccinated. It is important to note that four vaccine formulations were administered in this study which may have contributed to variability in the results. Patient specific factors and formulations of the yearly influenza vaccine should be further evaluated to determine if there is an increased risk for the interaction. Although many reports conclude there is no interaction between warfarin and influenza vaccine, the interaction cannot be ruled out. The authors of the literature review described above recommend patients' INRs be checked more frequently during the 4 to 6 weeks following influenza vaccination.

References

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