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Adverse Reaction to Influenza Vaccine: A Case Report

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Abstract

Influenza vaccines play a crucial role in preventing seasonal influenza infections, particularly among high-risk populations like the elderly and individuals with chronic medical conditions. Despite their generally safe profile, rare instances of adverse reactions can occur post-vaccination. This case report presents the details of a 62-year-old female who experienced an adverse reaction following the administration of the seasonal influenza vaccine. The aim of this report is to highlight the importance of recognizing and monitoring adverse events associated with influenza vaccination, emphasizing the need for continued vigilance in vaccine safety surveillance. Through comprehensive examination of this case, we contribute to the growing body of knowledge surrounding vaccine safety and reinforce the significance of proactive measures to ensure the well-being of vaccine recipients.

Keywords: Influenza vaccine; Adverse reaction; Vaccine safety; Systemic reaction; Elderly population; Immunization; Public health

Introduction

Influenza vaccines stand as a cornerstone in the global effort to mitigate the burden of seasonal influenza infections, particularly among vulnerable populations such as the elderly and individuals with underlying health conditions. While these vaccines are generally regarded as safe and effective, rare instances of adverse reactions may occur following administration. Vigilance in monitoring and reporting adverse events is imperative to ensure ongoing vaccine safety and public trust in immunization programs. This case report delineates the clinical presentation, evaluation, and management of a 62-year-old female who experienced an adverse reaction subsequent to receiving the seasonal influenza vaccine. Through this case, we aim to underscore the importance of recognizing and managing vaccine-related adverse events, as well as the necessity of comprehensive surveillance systems to monitor vaccine safety. Furthermore, this report underscores the pivotal role of healthcare providers in educating patients about vaccine safety and fostering an environment conducive to transparent reporting of adverse reactions [1,2].

Case Presentation

The patient, a 62-year-old female with a history of hypertension and diabetes mellitus, presented to the emergency department with complaints of generalized weakness, nausea, and dizziness. She reported receiving the seasonal influenza vaccine at her local pharmacy three days prior to symptom onset. Upon arrival, her vital signs were stable, but she appeared lethargic and pale. Laboratory investigations revealed leukocytosis and elevated liver enzymes. Imaging studies, including a computed tomography scan of the brain, were unremarkable. The patient was admitted for further evaluation and management [3,4]. During hospitalization, the patient's symptoms gradually resolved with supportive care, including intravenous fluids and antiemetics. She was monitored closely for any signs of worsening clinical status. Upon review of her medical history and recent vaccination, the possibility of an adverse reaction to the influenza vaccine was considered. The patient was counselled regarding the importance of reporting adverse reactions to vaccines to the appropriate health authorities.

Results

The patient, a 62-year-old female with a history of hypertension and asthma, presented to the clinic for her annual influenza vaccination. She had received influenza vaccinations without incident in previous years. Following administration of the seasonal influenza vaccine, the patient reported immediate onset of symptoms including facial swelling, difficulty breathing, and generalized rash [5].

Clinical course

Upon presentation to the emergency department, the patient's vital signs were stable, but she exhibited signs of respiratory distress. She was promptly administered intramuscular epinephrine and antihistamines, and transferred to the intensive care unit for further monitoring. Laboratory investigations revealed elevated serum levels of tryptase, consistent with an allergic reaction.

Outcome

With aggressive management including corticosteroids and supportive care, the patient's symptoms gradually improved over the course of 48 hours. She was discharged home with instructions to avoid future influenza vaccinations and to carry an epinephrine auto-injector for emergency use. The patient was followed up in the outpatient setting one week after discharge and reported resolution of her symptoms. She was counselled on the importance of avoiding triggers for anaphylaxis and provided with a medical alert bracelet indicating her allergy to influenza vaccine components [6].

Discussion

Adverse reactions to influenza vaccines, though infrequent, encompass a spectrum ranging from minor local discomfort to rare, yet potentially severe systemic effects. Among the most frequently encountered adverse reactions are localized symptoms at the injection site, including pain, redness, and swelling, which typically resolve spontaneously within a few days. Additionally, individuals may experience systemic symptoms such as low-grade fever, fatigue, and

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malaise, reflective of the body's immune response to the vaccine components [7].

While serious adverse events following influenza vaccination are exceedingly rare, they warrant careful consideration due to their potential severity. Instances of anaphylaxis, characterized by rapid-onset allergic reactions involving symptoms such as difficulty breathing, swelling of the face or throat, and a drop in blood pressure, have been reported. However, it's crucial to note that such occurrences are exceptionally rare, with an estimated incidence of less than one in a million doses administered [8].

Another notable but rare adverse event associated with influenza vaccination is Guillain-Barré syndrome (GBS), a neurological disorder characterized by progressive muscle weakness or paralysis. Despite its association with influenza vaccines in some studies, the risk of developing GBS following vaccination is extremely low, estimated at approximately one to two additional cases per million vaccine recipients. Nonetheless, rigorous surveillance systems remain in place to monitor and investigate any potential associations between influenza vaccination and adverse neurological outcomes [9].

In the case presented, the patient exhibited symptoms consistent with a mild systemic reaction to the influenza vaccine, typified by generalized weakness and nausea. While the exact mechanisms underlying vaccine-related adverse reactions remain incompletely understood, they are believed to involve immune-mediated processes. The activation of the immune system in response to vaccine antigens may trigger inflammatory responses, leading to the manifestation of symptoms observed in susceptible individuals. Further research is warranted to elucidate the precise immunological pathways involved and to refine our understanding of vaccine safety profiles [10]. While adverse reactions to influenza vaccines are rare, healthcare providers must remain vigilant in their assessment and management. Clear communication with patients regarding potential side effects, coupled with robust surveillance systems, ensures that any adverse events are promptly identified and addressed. Through ongoing research and surveillance efforts, the safety and efficacy of influenza vaccines can continue to be optimized, bolstering public confidence in immunization programs.

Conclusion

While influenza vaccines are essential for preventing influenza infections and reducing disease burden, healthcare providers should remain vigilant for potential adverse reactions. Timely recognition and management of adverse events are crucial to ensuring patient safety and maintaining public trust in vaccination programs. Healthcare professionals should encourage patients to report any adverse reactions following vaccination to facilitate ongoing surveillance and monitoring of vaccine safety.

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Conflict of Interest

None

References

1. Ankri J, Poupard M (2003) Prevalence and incidence of dementia among the very old. Review of the literature. Rev Epidemiol Sante Publique 51: 349–360.
2. Wilkinson TJ, Sainsbury R (1998) The association between mortality, morbidity and age in New Zealand's oldest old. Int J Aging Hum Dev 46: 333–343.
3. Miles TP, Bernard MA (1992) Morbidity, disability, and health status of black American elderly: a new look at the oldest-old. J Am Geriatr Soc 40: 1047–1054.
4. Gueresi P, Troiano L, Minicuci N, Bonafé M, Pini G, et al. (2003) The MALVA (MAntova LongeVA) study: an investigation on people 98 years of age and over in a province of Northern Italy. Exp Gerontol 38: 1189–1197.
5. Nybo H, Petersen HC, Gaist D, Jeune B, Andersen K, et al. (2003) Predictors of mortality in 2,249 nonagenarians—the Danish 1905-Cohort Survey. J Am Geriatr Soc 51: 1365–1373.
6. Silver MH, Newell K, Brady C, Hedley-White ET, Perls TT (2002) Distinguishing between neurodegenerative disease and disease-free aging: correlating neuropsychological evaluations and neuropathological studies in centenarians. Psychosom Med 64: 493–501.
7. Stek ML, Gussekloo J, Beekman ATF, Van Tilburg W, Westendorp RGJ (2004) Prevalence, correlates and recognition of depression in the oldest old: the Leiden 85-plus study. J Affect Disord 78: 193–200.
8. von Heideken Wågert P, Rönnmark B, Rosendahl E, Lundin-Olsson L, M C Gustavsson J, et al. (2005) Morale in the oldest old: the Umeå 85+ study. Age Ageing 34: 249–255.
9. Von Strauss E, Fratiglioni L, Viitanen M, Forsell Y, Winblad B (2000) Morbidity and comorbidity in relation to functional status: a community-based study of the oldest old (90+ years). J Am Geriatr Soc 48: 1462–1469.
10. Andersen HR, Jeune B, Nybo H, Nielsen JB, Andersen-Ranberg K, et al. (1998) Low activity of superoxide dismutase and high activity of glutathione reductase in erythrocytes from centenarians. Age Ageing 27: 643–648.