

COMMENTARY

Influenza Vaccination for Cancer Patients: Tertiary Prevention of Mortality

Viroj Wiwanitkit

Abstract

Tertiary prevention is an important concept in oncology. The prevention of extensive damage due to superimposed conditions is a core approach for cancer prevention at the tertiary level. In this article, the author discusses influenza vaccination for cancer patients in this light.

Key Words: Tertiary cancer prevention - influenza - vaccination

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Introduction

Preventive medicine encompasses three levels: primary, secondary and tertiary preventions. All should be used in management of any specific problem (Goldberg and Chavin, 1997; Sagar and Lawenda, 2009). For cancer, tertiary prevention is thus an essential concept in oncology. Basically, the prevention of mortality due to superimposed conditions is thus a core approach for avoidance of cancer mortality at the tertiary level (Adler et al., 2008). Tertiary prevention methods involve the care of established cancer including methods to reduce or eliminate long-term sequelae and specific programs including vaccination to cope with additional problems due to cancer of the patients. Sometimes, tertiary prevention is often difficult to separate from treatment so that it is also given as a parallel practice. Prevention of inflammation and superimposed infections is also the important focus of tertiary prevention in cancer patients. In this article, the author discusses influenza vaccination in this light.

Influenza in Cancer Patients

It is accepted that the cancer patients, especially those who received chemotherapy, can be considered immunocompromised. This means they are prone to get superimposed infection. Influenza is clearly one important disease associated with nosocomial infections in patients with cancer (Kamboj and Sepkowitz, 2009). Viral pneumonia can easily develop in infected cases (Whimbey and Bodey, 1992; Takahashi and Nagai, 2008) and Boeckh (2008) noted that lymphopenia was the most important risk factor for progression to lower respiratory tract disease. Excessive mortality of cancerous patients infected with influenza is reported and brings concern in the view of oncologists (akahashi and Nagai, 2008). According to this finding, prevention by vaccination is to be recommended. Because influenza is associated with

considerable morbidity and mortality and is potentially preventable and treatable, it is important that rapidly diagnosed and treated promptly (Whimbey and Bodey, 1992). For treatment, the antiviral drug should be used as early as possible. Similar to vaccination, antiviral prophylaxis is also indicated for cancer patients at risk of immunosuppression (Sandherr et al., 2006). In the present emerging condition of new influenza, swine flu, the high mortality among the patients with underlying malignancy is also mentioned. This brings the need to focus on influenza among cancerous patients at present.

Influenza Vaccination as Tertiary Prevention for Cancer Patients

It is accepted that the influenza vaccination is useful for prevention of influenza among the cancerous patients. At present, influenza immunization is one of the four recommended preventive services (mammography, colorectal cancer screening, influenza immunization, and bone density testing) for case with uterine cancer [8]. According to a recent study by McBean et al (2008), long term survivors had a significant higher rate of getting influenza immunization. However, it should be noted that the vaccination rate in this at-risk population is usually lower than the overall national uptake in the elderly, the primary recommended group for influenza vaccination (Lai et al., 2008; McBean et al., 2008). Ring et al (2003) noted that increased awareness of the benefits of influenza vaccine and its safety is needed among oncologists.

Focusing on the vaccine recommendation, any cancer patients should get influenza vaccination as a tertiary prevention measure. For pediatric oncology patients, it is proved that the cases receiving chemotherapy are able to generate an immune response to the influenza vaccine, but it is not clear whether this immune response protects them from influenza infection or its complications (Goossen et al., 2009). However, results from recent

clinical studies show that influenza vaccination can be considered safe in children undergoing chemotherapy and, although weaker than in healthy children, the immune response seems to be sufficient in these patients (Esposito et al., 2009).

For vaccine administration, an annually intramuscular injection is recommended. However, recent publication showed that only a half dosage intradermal influenza vaccination could give a similar outcome (Jo et al., 2009). Finally, it should be noted that any health personnel attending hospitalised oncological patients should also get influenza vaccination to prevent the possibility in transmission of the disease to the cancerous patients (Chicaíza-Becerra et al., 2008). This has already proven cost effective (Chicaíza-Becerra et al., 2008).

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