

令和5年度医科学専攻（修士課程）入学者選抜第3次募集 小論文

出題意図

本入試問題は、Allergic Reactions to Vaccines in Children: From Constituents to Specific Vaccines by Ming-Han Tsai and Chih-Yung Chiu. Biomedicines 2023, 11(2), 620.より、論文の一部を抜粋し改変して出題に使用した。とくに、内容に関しては小児における各種ワクチン接種に対するアレルギー反応に関する論文であり、医療従事者にとっては比較的馴染みの深い内容をテーマとして取り上げ、さらに比較的平易な英文法による、語句および表現を用いた文章内容と考えられた。

出題に関しては、特別な医学的専門的知識を必要とせず、本学術論文の文脈および前後関係を理解することで、すべての回答は文章中の表現をそのまま用いるか、もしくはごく限られた単語及び表現および文章を変更するのみで正しい回答となるように工夫を試みた。すなわち、大学院修士課程において研究を実施するにあたり、関連する学術論文を総論的に内容の全体理解を限られた時間内において深められる考察力と、適切に各論的な表現や語句に注意をはらい、それらを的確に咀嚼して理解し、英語をもちいて回答することにより、その読解力と表現力に関して本出題を通して問うこととした。

Example Answers/ 解答例

いずれの回答も、原則英語である。

Question. 1: Please describe the causality assessment in “vaccine-associated allergic reactions”.

(10 点)

Causality assessment is the process of determining the relationship between an adverse event and a vaccine.

Question. 2: Please describe how these allergic reactions to vaccines can be triggered.

(15 点)

These allergic reactions can be triggered by vaccine antigens, residual media used in vaccine production, preservatives, stabilizers, or other excipients.

Question. 3: Please describe what can be caused due to fear of allergic reactions to vaccines.

(15 点)

Fear of allergic reactions can contribute to vaccine hesitancy, which can compromise herd immunity and hinder efforts to control the spread of infectious diseases.

Question. 4: Please explain two general types of reactions according to the classification system for immunologic reactions to vaccines based on the timing of symptom onset proposed by The World Allergy Organization (WAO).

(20 点)

According to this classification system, there are two general types of reactions: ① immediate and delayed reactions. Immediate reactions occur within minutes to one hour after vaccination and are most likely mediated by IgE antibodies. ② Delayed reactions may appear several hours to days after vaccination. These reactions are rarely mediated by IgE antibodies.

Question. 5: Please explain how you can distinguish between vasovagal reactions and anaphylaxis in “Systemic nonallergic reactions to vaccines”.

(20 点)

Vasovagal reactions are often preceded by pale skin, whereas anaphylaxis may start with flushing and may also include symptoms such as itching, hives, and swelling. Anaphylaxis is more likely to cause tachycardia, whereas a vasovagal reaction may cause bradycardia.

Question. 6: Please explain why “Anaphylaxis is a severe life-threatening allergic reaction”.

(20 点)

This is because anaphylaxis is a severe life-threatening allergic reaction that can affect multiple organ systems. Although the incidence of anaphylaxis after vaccination is rare, anaphylaxis can affect the skin and respiratory, gastrointestinal, and cardiovascular systems, and symptoms may include generalized hives, wheezing, swelling of the mouth, tongue, and throat, difficulty in breathing, vomiting, diarrhea, low blood pressure, decreased levels of consciousness, and shock.