博士後期課程

令和7年度

武蔵野大学大学院　薬科学研究科　薬科学専攻 博士後期課程　入学試験問題(9 月 22 日)

［ 英語 ］

【問題１】次の文章はゾコーバ®（エンシトレルビル　フマル酸）の Phase 3 試験の論文のイントロダクションと方法の一部である。文章を読んで各問に答えよ。

Introduction

COVID-19 rapidly spread worldwide, and in November 2021, the SARS-CoV-2 Omicron variant was declared a variant of concern. Patients infected with the Omicron variant generally experience mild symptoms but may have more absences from work. Despite the global administration of vaccinations, there has been emergence of Omicron BA.5*, XBB*, and BQ.1* sublineages, which can evade host immunity.

Several antiviral drugs against SARS-CoV-2 infection are available worldwide, such as remdesivir, molnupiravir, and ①ritonavir-boosted nirmatrelvir. However, the clinical trials of these drugs were conducted in high-risk, unvaccinated patients and when the Delta or pre-Delta variant was dominant. Moreover, ②in vitro studies suggest that most therapeutic monoclonal antibodies against SARS-CoV-2 are less efficacious against Omicron subvariants vs previous variants. Novel treatment options that can be used irrespective of the presence of risk factors for severe disease are warranted.

Ensitrelvir fumaric acid is an oral SARS-CoV-2 3C-like protease inhibitor that has shown antiviral effects against multiple SARS-CoV-2 variants of concern, including Omicron subvariants, in in vitro and in vivo studies. As of September 2023, ensitrelvir (125-mg tablets) obtained emergency use approval in Japan and has been under Fast Track review by the US Food and Drug Administration (FDA). A seamless phase 2/3, double-blind, placebo-controlled randomized clinical trial is currently underway (Japan Registry of Clinical Trials identifier: jRCT2031210350). Ensitrelvir treatment demonstrated decreased viral load vs placebo in phases 2a and 2b and showed improvements in 4 respiratory symptoms (stuffy or runny nose, sore throat, shortness of breath, and cough) and the composite of the 4 respiratory symptoms and feverishness in phase 2b. The SCORPIO-SR trial, phase 3 of the phase 2/3 trial, assessed the efficacy and safety of ensitrelvir in patients with mild to moderate COVID-19.

Methods
End Points

The primary end point was the time to resolution of the composite of 5 COVID-19 symptoms (stuffy or runny nose, sore throat, cough, feeling hot or feverish, and low energy or tiredness) on the basis that they were the most commonly observed symptoms in the phase 2b study of the current phase 2/3 study that was conducted when the Omicron BA.1 variant was predominant.

（Yotsuyanagi H, et al.; Efficacy and Safety of 5-Day Oral Ensitrelvir for Patients With Mild to Moderate COVID-19. The SCORPIO-SR Randomized Clinical Trial. *JAMA Netw Open*. 2024, 7(2): e2354991. doi: 10.1001/jamanetworkopen.2023.54991.より引用）

＜英単語＞
variants of concern：懸念される変異株
Omicron subvariants：オミクロン亜系統（亜変異体）
irrespective of：～に関わらず
warranted：必要とされている
the composite of the 4 respiratory symptoms and feverishness：4 種呼吸器症状と発熱の 5 つの症状を複合（※複合エンドポイント：複数のエンドポイントを複合して主要エンドポイントとして扱うこと）
predominant：支配的な、優勢な

（解答は日本語で）

問１　下線部①の意味を記載しなさい。

問２　エンシトレルビル以外の抗ウイルス薬の臨床試験は、どのような患者を対象として行われたか記載しなさい。

問３　下線部②を和訳しなさい。

問４　**エンシトレルビル**の作用機序と対象となる病原体を記載しなさい。

問５　この Phase 3 試験は、どのような患者を対象として行われたか記載しなさい。

問６　この Phase 3 試験の主要エンドポイントを詳細に記載しなさい。

問７　上記の主要エンドポイントが設定された理由を記載しなさい。