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Symposium

Safety evaluation using human induced pluripotent stem cell-derived cardiomyocytes (hiPS-CMs): Availability of evaluation system using atrial myocytes

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Since human induced pluripotent stem cell derived cardiomyocytes (hiPS-CMs) became available, its usefulness for safety evaluation aiming at improving predictability has been actively examined in many facilities. Among them, the researches focusing on drug induced ventricular arrhythmias using hiPS-CMs have been validated. On the other hand, drug related supraventricular arrhythmias including atrial fibrillation and sinus node dysfunction, which are increasing year by year in clinical, might not be detected by existing methods using hiPS-CMs because the cells being used are mainly constituted of ventricular myocytes. Currently, we are trying to establish the cardiotoxicity system using hiPS cell derived atrial myocytes, and some differences between atrial and ventricular myocytes in drug response are being acquired. In this symposium, we will introduce some evidence and discuss the usefulness of evaluation system using hiPS atrial myocytes as a detection method of supraventricular arrhythmia.