

Intisari

Latar belakang dan Tujuan Penelitian: Rute pemberian obat secara intravena dianggap menjadi pilihan yang tepat pada pasien *Intensive Care Unit* (ICU) karena menghasilkan onset yang cepat, akan tetapi memiliki risiko seperti kejadian plebitis yang dapat disebabkan karena pemberian obat intravena bersifat vesikan yang dikaitkan dengan pH dan osmolaritas obat. Tujuan dari penelitian ini yaitu untuk mengetahui hubungan antara pemberian vesikan dan inkompatibilitas obat dengan kejadian plebitis di ruang *Intensive Care Unit* Rumah Sakit (RS) Akademik Universitas Gadjah Mada, serta mengetahui gambaran inkompatibilitas obat khususnya pada pasien yang mengalami plebitis.

Metode Penelitian: Penelitian observasional analitik dengan rancangan *cross-sectional* retrospektif pada pasien ICU, PACU, dan ICCU RS Akademik UGM periode Juni 2022- Juli 2023. Teknik pengambilan sampel menggunakan *consecutive sampling* terhadap 98 catatan rekam medis yang memenuhi kriteria inklusi. Data obat vesikan diperoleh dari catatan rekam medis yang dibandingkan dengan daftar obat vesikan Gorski dkk (2017). Gambaran inkompatibilitas obat diperoleh dari hasil penelusuran Lexicomp dan uji inkompatibilitas pada sebelas sampel obat yang diperoleh setelah melakukan pengamatan terhadap rekam medik pasien. Sampel obat yang diuji diperoleh melalui Instalasi Farmasi RS Akademik UGM. Uji inkompatibilitas menggunakan metode “*a typical model patient*” yang dinilai dari perubahan pH dan pengamatan mikroskop dengan perbesaran 10 kali dan 40 kali. Kejadian plebitis diamati melalui data rekam medis. Hubungan antara vesikan dan inkompatibilitas obat terhadap kejadian plebitis dianalisis dengan *chi-square*. Hasil uji pH, osmolaritas dan inkompatibilitas obat dijelaskan secara deskriptif.

Hasil dan Pembahasan: Analisis korelasi menunjukkan terdapat hubungan antara pemberian vesikan dengan kejadian plebitis ($p=0,031$), sedangkan inkompatibilitas obat tidak berhubungan dengan plebitis ($p=0,692$). Inkompatibilitas obat terjadi pada 57 (58,1%) pasien berupa pengendapan, partikel, dan perubahan warna. Hasil uji inkompatibilitas obat menunjukkan pembilasan dengan NS 0.9% mampu menurunkan risiko inkompatibilitas obat pantoprazole-furosemide dan pantoprazole-manitol, sedangkan pembentukan kristal jarum terjadi pada pembilasan fenitoin menggunakan NS 0.9%.

Kata kunci: Vesikan, inkompatibilitas obat, kejadian plebitis.

Abstract

Background and Research Objectives: Intravenous drug administration route is right choice for Intensive Care Unit (ICU) patients because it produces a rapid onset, but has risks such as phlebitis which can be caused by vesicant intravenous drug administration associated with the pH and osmolarity of drug. Phlebitis can also be caused by precipitate or microparticles which can occur due drug incompatibility. The aim of this research is to determine relationship between vesicants and drug incompatibility with phlebitis in Intensive Care Unit of Gadjah Mada University Academic Hospital, and to understand descriptive of drug incompatibility in patients experiencing phlebitis.

Research Method: Analytical observational study with a retrospective cross-sectional design on ICU, PACU and ICCU patients at UGM Academic Hospital for June 2022-July 2023 period. Sampling technique used consecutive sampling of 98 medical records of patients who met the inclusion criteria. Vesicant drug data was obtained from patient medical records which were compared with the vesicant drug list of Gorski et al (2017). Description of drug incompatibility was obtained from results of Lexicomp searches and incompatibility tests of eleven drug samples obtained after observing the patient's medical records. The drug samples tested were obtained through the UGM Academic Hospital Pharmacy Installation. The incompatibility test uses "a typical model patient" method which is assessed from changes of pH and microscope observations with 10 times and 40 times magnification. incidence of phlebitis was observed through medical record data. The relationship between vesicants and drug incompatibility on the incidence of phlebitis was analyzed using chi-square. The results of pH, osmolarity and drug incompatibility tests are explained descriptively.

Results and Discussion: Analysis correlation showed there was a relationship between vesicants and phlebitis ($p=0.031$), while drug incompatibility was not related to phlebitis ($p=0.692$). Drug incompatibility occurred in 57 (58.1%) patients form of precipitation, particles and color changes. The results of drug incompatibility test showed rinsing with 0.9% NS was able to reduce risk of drug incompatibility with pantoprazole-furosemide and pantoprazole-mannitol, while the formation of needle crystals occurred when phenytoin rinsing using 0.9% NS.

Keywords : Vesicant, drugs incompatibility, plebitis