

## ABSTRAK

**Latar belakang:** Aneurisma intrakranial merupakan suatu kantong yang terbentuk karena dilatasi abnormal pada dinding arteri serebral. Salah satu faktor risiko yang sering dikaitkan dengan ruptur aneurisma intrakranial adalah hipertensi. Klasifikasi hipertensi berdasarkan derajat tekanan darah seseorang dapat digunakan untuk memperkirakan risiko penyakit kardiovaskular di masa depan. MSCT angiografi merupakan salah satu pemeriksaan yang sering digunakan untuk diagnosis aneurisma intrakranial. MSCT angiografi juga diketahui memiliki akurasi yang cukup tinggi dalam diagnosis aneurisma intrakranial.

**Tujuan:** Mengetahui hubungan derajat hipertensi dan morfologi aneurisma dengan ruptur aneurisma intrakranial berdasarkan pemeriksaan MSCT angiografi.

**Metode:** Penelitian ini menggunakan desain penelitian observasional analitik dengan metode *retrospective cross-sectional*. Sampel penelitian ini didapatkan dari rekam medis pasien aneurisma intrakranial di RSUP Dr. Kariadi Semarang pada rentang waktu Agustus 2019-Agustus 2023. Uji statistik yang dilakukan adalah uji *Fisher exact*.

**Hasil:** Dari 27 pasien yang menjadi subjek penelitian, 21 pasien (77,8%) terdiagnosis *ruptured intracranial aneurysm* dan 6 pasien (22,2%) terdiagnosis *unruptured intracranial aneurysm*. Sebagian besar pasien berusia lebih dari 50 tahun (70,4%) dan berjenis kelamin perempuan (59,3%). Uji *Fisher exact* menunjukkan tidak ada hubungan bermakna antara hipertensi ( $p=0,06$ ), lokasi aneurisma ( $p=0,628$ ), dan lebar *neck* aneurisma ( $p=0,638$ ) dengan ruptur aneurisma intrakranial. Akan tetapi, didapatkan hubungan bermakna antara ukuran aneurisma dengan ruptur aneurisma intrakranial ( $p=0,008$ ). Aneurisma intrakranial yang berukuran  $<7$  mm memiliki risiko yang lebih tinggi untuk mengalami ruptur.

**Kesimpulan:** Tidak terdapat hubungan bermakna antara derajat hipertensi, lokasi aneurisma, dan lebar *neck* aneurisma terhadap ruptur aneurisma intrakranial. Ukuran aneurisma memiliki hubungan bermakna dengan ruptur aneurisma intrakranial.

**Kata kunci:** Hipertensi, Lokasi Aneurisma, Ukuran Aneurisma, Lebar *Neck* Aneurisma, Ruptur Aneurisma Intrakranial, MSCT Angiografi.

## **ABSTRACT**

**Background:** Intracranial aneurysm is a sac that formed due to abnormal dilatation of the cerebral artery wall. One of the risk factors that often associated with intracranial aneurysm rupture is hypertension. Classification of hypertension based on a person's blood pressure level can be used to estimate the risk of cardiovascular disease in the future. MSCT angiography is one of the examinations that is often used to diagnose intracranial aneurysms. MSCT angiography is also known to have high accuracy in the diagnosis of intracranial aneurysms.

**Objective:** To determine the association between the stage of hypertension and aneurysm morphology with intracranial aneurysm rupture based on MSCT angiography examination.

**Method:** This study used an analytical observational research design with a retrospective cross-sectional method. The samples for this study were obtained from the medical records of intracranial aneurysm patients at RSUP Dr. Kariadi Semarang in the time period August 2019-August 2023. The statistical test performed in this study was the Fisher exact test.

**Results:** Of the 27 patients who became research subjects, 21 patients (77.8%) were diagnosed with ruptured intracranial aneurysm and 6 patients (22.2%) were diagnosed with unruptured intracranial aneurysm. Most of the patients were over 50 years old (70.4%) and female (59.3%). Fisher exact test showed no significant association between hypertension ( $p=0.06$ ), aneurysm location ( $p=0.628$ ), and aneurysm neck width ( $p=0.638$ ) with intracranial aneurysm rupture. However, there was a significant association between aneurysm size and intracranial aneurysm rupture ( $p=0.008$ ). Intracranial aneurysms that are  $<7$  mm in size have a higher risk of rupture.

**Conclusion:** There is no significant relationship between the stage of hypertension, aneurysm location, and aneurysm neck width on intracranial aneurysm rupture. Aneurysm size has a significant association with intracranial aneurysm rupture.

**Keywords:** Hypertension, Aneurysm Location, Aneurysm Size, Aneurysm Neck Width, Intracranial Aneurysm Rupture, MSCT Angiography.