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**COMPARISON OF FLOW GAP-RELATED ARTEFACT AND ITS TIME ACQUISITION IN BETWEEN PHASE CONTRAST AND TIME OF FLIGHT (TOF) MR CEREBRAL VENOGRAPHY IN 3T MR**Intan Bazilah AB<sup>1</sup>, Radhiana H<sup>1</sup>, Jamalludin AR<sup>2</sup><sup>1</sup> *Department of Radiology, Kulliyah of Medicine, IIUM*<sup>2</sup> *Department of Community Medicine, Kulliyah of Medicine, IIUM*

**Introduction:** Cerebral magnetic resonance venography (MRV) is known as a non-invasive tool to investigate the intracranial disease. Commonly used techniques for patient with contraindication to intravenous contrast media are Time of Flight (TOF) and phase contrast (PC). We herein interest to compare which techniques causing more flow gap-related artefact and less time consuming. **Material and method:** A prospective cross-sectional study in which 31 healthy volunteers with age group between 18-35-year-old were recruited during this 20-month study period. They were imaged on 3 Tesla MR at Radiology Department of International Islamic University Malaysia using a standardized parameter for PC and TOF MRV. The images were post-processed using maximum intensity projection (MIP). The intracranial venous system was divided into 7 vessels groups which include superior sagittal sinus (SSS), inferior sagittal sinus, straight sinus, transverse sinus (TS), sigmoid sinus, internal cerebral vein and vein of Galen. They were assessed by a neuroradiologist for any flow-gap related artefact. Time acquisition for both studies were also compared. **Results:** PC MRV shows significant lesser evidence of flow-gap related artefact than TOF MRV in SSS ( $P = 0.001$ ) and TS ( $P = 0.002$ ). No significant differences in other veins ( $P > 0.05$ ). However, PC MRV significantly took longer acquisition time with mean of 5.25 minutes in comparing with TOF MRV which only took about 4.21 minutes to complete the study. **Conclusion:** PC MRV is a better tool than TOF MRV for assessing the intracranial cerebral veins and should be utilized more in the future for better accuracy of diagnosis despite its relatively longer acquisition time.