

The Circle of Willis: a review and a case report

Giulia A. Mariani, Rina Agushi, Alberto Balduzzi, Matteo Zoli, Lorenzo Maroni, Maria Carla Mazzotti, Chiara Panzavolta, Anna Maria Billi, Lucio Cocco and Lucia Manzoli

Department of Biomedical Sciences, Human Anatomy Unit, University of Bologna

The circle of Willis is one of the most famous eponymous structures in human anatomy. There is no doubt Thomas Willis demonstrated the anastomotic arterial supply at the base of the brain. However, this eponymous name does not reveal the history of the discovery of the ramification, nor does it give credit to the anatomists and artists who have contributed to the understanding of this clinically important structure.

Here we review the variations of the circle which actually give credit to anatomist. Indeed they are the first to face the large number of the variations during dissections, even though radiologists are the ones that more frequently realise their clinical importance.

Moreover we focus on a very rare variation involving the morphometry of A1 segment of the anterior cerebral artery as well as the foetal variant which affects the posterior cerebral artery.

Key words

Circle of Willis, anterior cerebral artery, posterior cerebral artery, arterial variations, A1 segment.