# Anatomical variations of the posterior part of the circle of willis. A series of 11 cases

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**Introduction**

The Circle of Willis (CoW) represents the cerebral principal arterial structure for maintaining a stable and constant blood flow to the brain. Any change in the morphology of the constituent arteries of the CoW can lead to vascular insufficiency syndromes.

**The aim**

of the study is to identify the anatomical variants of the constituent arteries of the posterior part of the CoW in the adult patients from the North-Eastern region of Romania, based on the macroscopic analysis of the specimens obtained at autopsy.

**Material and method**

We conducted a retrospective descriptive study, performed on 96 patients who died of various medical causes in the "Prof. Dr. N. Oblu" Emergency Clinical Hospital Iasi, Romania, over a period of 30 months, who underwent an anatomical-clinical autopsy in order to establish the diagnosis of death. We investigated the data regarding the deceased patient and those regarding the morphological aspects of the posterior part of the CoW.

**Results**

Of the 96 available CoW, 28 cases (29.17%) were "atypical", of which 11 cases (11.45%) presented anatomical variants of their posterior part.

In the study group, we identified a ratio of Women: Men of 1.2. Most cases were aged in the 5th and 6th decades of their life. 54.54% of the analyzed CoW presented anatomical variations of two constituent arteries of their posterior part. Hypoplasia of a constituent artery

of the posterior part of CoW was the most common type of anatomical variant (20.45% of all cases). We identified seven patterns in the configuration of the posterior part of the CoW.

**Conclusion**

The anatomical variants of the posterior part of the circle of Willis identified by the present study are similar to those obtained by other researchers and can characterize the population of the North-Eastern region of Romania.

**Key words**-circle of Willis, anatomical variations, posterior part.