

Abstract POSTERS **Cerebral ischemia after subarachnoid haemorrhage from ruptured intracranial aneurysms: historical background**

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The history of Intracranial ANeurysms (IAN) surgery in many ways is connected with cerebral ischemia following SubArachnoid Hemorrhage (SAH). Awareness of Cerebral Infarction (CI) after rupture of an IAN began nearly 150 years ago when Gull described in 1859 a fatal illness in a young woman who suffered a stroke; at autopsy a ruptured middle cerebral artery IAN was disclosed, surrounded by a large clot in the sylvian fissure with associated softening of the hemisphere consistent with a wide CI. The significance of this description was not fully appreciated until the 1950s when appeared in the literature some works (*Robertson, 1949; Wilson et Al, 1954*) describing several instances of ischemia after aneurysmal SAH. Robertson, reviewing a large series of ruptured IAN found evidence of CI; he was the first to speculate on arterial vasospasm (VSP) as a possible cause; Robertson hypothesized that the ischemia was

due to temporary VSP of the supply vessels rather than compression by the IAN or hematoma.

However, up to then there had been no hard evidence demonstrating this entity; in 1951 Ecker and Riemenscheider provided evidence of VSP, describing in six cases angiographically confirmed spasm of cerebral arteries; they stated “it is possible that VSP plays an important role following spontaneous rupture of IAN of or near the circle of Willis”. The modern era of recognition of VSP started with their description. Finally, now we know that rupture of IAN may have devastating ischemic effects on the cerebral circulation also by mechanisms somehow different from VSP: disturbance of cerebral energy metabolism, decrease in Cerebral Blood Flow (CBF) unrelated to angiographically visualized VSP; cerebral edema and increased intracranial pressure.

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