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Comparison between digital subtraction Angiography and Indocyanine green angiography in the operative management of Aneurysmal Subaracnoid Hemmorhage

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Background: Digital subtraction angiography (DSA) is a fluoroscopy technique used in interventional radiology to clearly visualize blood vessels in a bony or dense soft tissue environment. Images are produced using contrast medium by subtracting a "pre – contrast image" or mask from subsequent images, once the contrast medium has been introduced into a structure, hence the term "Digital subtraction angiography". ICG video angiography--- is a safe and practical method of real time delineation of microvasculature used in the surgical management of intracranial aneurysms, arterio venous malformations and other vascular lesions. Intraoperative Indocyanine green video angiography (ICG - VA) is used as an adjunct in addition to intraoperative or postoperative DSA, and in other cases, it is used as the sole method to confirm the complete obliteration of clipped intracranial aneurysms. The only limitation of ICG- VA is the non- visibility of vessels which are not in the operative field. Intraoperative ICG is useful in the clipping of intracranial aneurysms to ensure a gross patency of branch vessels; however, the presence of residual aneurysms and subtle changes in flow in branch vessels is best seen by DSA.

Methods: Indocyanine green angiography was done during the surgery and the findings of intra operative ICG angiography were compared with post –operative DSA which was done between six to twelve weeks.DSA was done to see any compromise of lumen of parent vessel by clip, any residual aneurysm.