SUMMARY:

This work includes 39 tables, 35 figures, 40 cases presented with 62 demonstrating pictures from a total of 73 pictures in the whole thesis work, all are from thesis material, collected in a trial to clarify inflow MR angiography as a new method of visualizing intracranial vasculature.

We choose a simple systematic ascending way to build up the readers information on what all that is related to the item starting from basic knowledge to advanced information.

We started the work with quick supervision of the standard MR sequences. We then followed by the relatively new sequences FISP and FLASH, which are the basic sequences for MR angiography comparing them to the usual spin-echo sequence.

Then, to reach the target, we started by discussing BLOOD, as a unique nature whether static as hemorrhage or flowing. While it is flowing, we should start by the simple form of flow which is simple flow. Through which we passed to the more complex item "blood flow".

Another validating interest to cover: is basics used for detection of flow signal and why blood may show as white in some images and others as black. We then gathered the factors utilized to see a white blood image in contrast to those responsible for a black blood image.

Then we introduced to the subject MR angiography depending on the previously discussed clarification. The different imaging procedures and the different commercial and advanced methods of post-processing.

The appearance of the normal intracranial circulation was an invalidity to know the difference between MR angiography image and standard angiography image.

A review of the different intracranial vascular lesions was encountered regarding pathology, standard radiology and MR and MR angiography appearance whenever it could be appreciated.

Finally we proceeded with method applied and case presentation.