Clipping Anterior Communicating Artery Aneurysm: A Case Report  
Mahmood E, Barkatullah AM, Khan SKN, Alam R

Summary
We are presenting a case who came to us with history of repeated subarachnoid hemorrhage (SAH). Carotid Angiogram done in Bahrain reported to show an aneurysm of anterior communicating artery (A com A) aneurysm. Patient was sent back to Dhaka. Patients' condition deteriorated after about 2 weeks. MRI & MRA failed to reveal any clear cut aneurysm. As patient was deteriorating we made a desperate blind approach and found an aneurysm. We clipped the aneurysm. Post operatively patient improved dramatically and after 4 weeks after the surgery patient was neurologically completely stable.

Introduction
Aneurysm of intracranial arteries are not uncommon. About 51% of all non traumatic sub-arachnoid haemorrhages are due to rupture of aneurysm. There is chance of bleeding in a big number of cases. Different Neurosurgeons have different opinions regarding time of clipping of aneurysm. Carotid Angiogram is still the best method to identify presence of an aneurysm. Recently MRA (Magnetic Resonance Arteriography) is playing a big role in detection of aneurysm. However, successful clipping of aneurysm is the best method of treatment for neurosurgeons as well as patients.

Case report
A 38 years old right handed Bangladeshi male was admitted in a neurosurgical unit of a Hospital in Bahrain on 22.4.2000 with complaints of acute severe headache of few hours duration followed by loss of consciousness for a brief period. On admission he was fully conscious and had no neurological deficit. Patient was normotensive and had no history of any previous major illness.

A C.T. scan of Brain was done on 24.4.2000 in Bahrain which showed evidences of SAH. On the following day carotid angiogram was done which showed a left A Com A aneurysm. Patients' condition deteriorated after 10 days. Consciousness level deteriorated and patient developed right sided hemiparesis. As facilities for clipping aneurysm is not present in Bahrain he was sent back to Bangladesh.

MRI & MRA showing areas where bleeding has occurred. Outline of aneurysmal sac is seen but not very clear

1. Dr. Ehsan Mahmood, Associate Professor of Neurosurgery, DMCH.  
2. Dr. Asif M. Barkatullah, MS part-3 Student, DMCH.  
3. Dr. SIM. Khairun Nabi Khan, MS Part-2 Student, DMCH.  
4. Dr. Razaul Alam, Asst. Registrar, Dept. of Neurosurgery, DMCH.
Case Report

On arrival to Bangladesh he was admitted in a clinic in Dhaka. When we examined the patient he was unconscious.

Patient had right sided hemiparesis of grade 2/5. We tried to improve the condition of patient with conservative treatment but condition was deteriorating. MRA was done but it couldn't give us clear picture of position and site of aneurysm due to presence of blood clots. So we decided to explore and clip the aneurysm.

On 11.5.2000 after pre-operative preparation, left frontal craniotomy was done. Left frontal lobe was retracted upward. Evidences of old haemorrhage and blood clot was found. Left olfactory nerve was sectioned. Gyri Recti was dissected and the fundus of aneurysm was found lying over the optic chiasma. It was dissected and separated from surrounding tissue. During the process of dissection, fundus ruptured. The bleeding was controlled and self retaining aneurysm clip was applied to neck of aneurysm. Wound was then closed in layer as usual.

On 7th post-operative day patient was fully conscious and his muscle power was 5/5.

Patient received Nimodipine 60mg 4 hourly post operatively for 3 days along with other medicines. After 3 days Nimodipine was tapered slowly.

Post operative recovery was excellent. Patient was fully conscious on 7th post-operative day. Patient was discharged on 10th post-operative day with advice to continue anticonvulsant and physiotherapy. His Right-sided weakness improved rapidly and 4 weeks after surgery, patient was neurologically completely stable & his muscle power was 5/5.

Discussion

Once it was thought that incidence of SAH are less in South Asia. But Ramamurthi and Tandon proved that incidence of SAH are almost same in South Asia as compared with Europe and America. Most of them remain undiagnosed and a vast number of patients die due to rebleeding or other complications.

Of all SAH, rupture from aneurysm accounts for 51% of cases. Diagnosis is done by direct carotid angiography or transfemoral 4 vessel angiography. Recent advances are digital substruction angiography and more recently Magnetic Resonance Arteriography (MRA).

The Principle of treatment is to separate this aneurysm from circulation without hampering normal circulation of brain. This is achieved by clipping the neck of aneurysm, putting suture in neck of aneurysm, excision of sac.

Prof Ehsan Mahmood performing the operation: Clipping Anterior Communicating Artery Aneurysm
Case Report

and microsuture, provoking thrombosis of aneurysm, wrapping aneurysm with cottons to induce fibrosis etc. However the treatment of choice is still clipping the neck of aneurysm.

Our patient worsened after rebleeding which is often fatal. We had no other choice but to find out the aneurysm. We were fortunate to find the sac of aneurysm and able to apply clip in the neck of it. Carotid angiogram or MRA done at proper time to find out aneurysm of anterior or posterior circulation of brain and clipping the neck of aneurysm will definitely help a lot of patients with SAH after aneurysmal rupture.

Acknowledgement
We like to thank Dr. Golam Mohiuddin, Sr. Consultant Neurosurgeon, Holy Family Red Crescent Hospital who has kindly supplied us Aneurysm clip and applicator.

References


