



Analysis of cases of aneurysms smaller than 5 mm operated at a tertiary hospital

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Introduction

The decision of to treat or not incidental aneurysms remains controversial, especially when the lesions are small. Although classical studies indicate a low rate of rupture in these aneurysms, there are many recent publications demonstrating that these lesions bleed with frequency.

Methods

We analysed the cases of intracranial aneurysms operated in a period of 15 months in our Department, in order to define the rate and risk of bleeding of these small aneurysms. Simultaneously we proceeded to a qualitative literature review on the subject focusing on articles published in the last 5 years.

Table2: Distribution by topography of ruptured and unruptured (aneurysms smaller than 5 mm)

Topography	Ruptured
ACoA	5
ACA	-
MCA	5
PERICALOSA	1
ACI	-
PCoA	-
OPHT	1
CH	-
HÍPOPH	-
CPA	-
BASLAR	-
VERTÉBRAL	-

ACoA: anterior communicating artery, ACA: anterior cerebral artery, MCA middle cerebral artery, ICA: internal carotid artery (except PCoA, ophthalmic and anterior choroidal), PCoA: posterior communicating artery, OPHT: ophthalmic artery, CH: anterior choroidal artery, HÍPOPH: hypophyseal artery superior CPA: posterior cerebral artery

Results

A series of 118 cases of surgically treated aneurysms (clipped) was analysed: 26.3% male and 73.7% female patients, with an average age of 54.1 years. Twenty five aneurysms were small and the incidence of rupture in this group was 48% (12 cases). Two of these patients died and 3 evolved with severe disability.

Table 3: Morbidity on discharge (for patients with small aneurysms)

RANKIN	Ruptured	Unruptured
0	2	3
1	3	9
2	-	1
3	1	-
4	1	-
5	3	-
6	2	-

Table1: Distribution by topography of ruptured and unruptured aneurysms (all cases)

Topography	Ruptured
ACoA	14
ACA	1
MCA	25
PERICALOSA	1
ACI	2
PCoA	13
OPHT	1
CH	0
HÍPOPH	1
CPA	2
BASLAR	1
VERTÉBRAL	0

ACoA: anterior communicating artery, ACA: anterior cerebral artery, MCA middle cerebral artery, ICA: internal carotid artery (except PCoA, ophthalmic and anterior choroidal), PCoA: posterior communicating artery, OPHT: ophthalmic artery, CH: anterior choroidal artery, HÍPOPH: hypophyseal artery superior CPA: posterior cerebral artery

Table 4: Morbidity on discharge in each subgroup of small aneurysms

RANKIN	5-4,1mm	4-2,1mm	≤2mm
0	-	1	1
1	2	1	-
2	-	-	-
3	1	-	-
4	-	-	4
5	-	2	-
6	-	1	6

Conclusions

The number of small aneurysms in our series was significant (21%) and its rate of bleeding was high, resulting in death and disability in a significant number of cases. Our tendency is to operate these lesions, ruptured or not.

Learning Objectives

To describe the management for incidental cerebral aneurysms smaller than 5 mm

To describe the prognosis in subarachnoid hemorrhage associated with small aneurysms

References

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