

**Objective:**

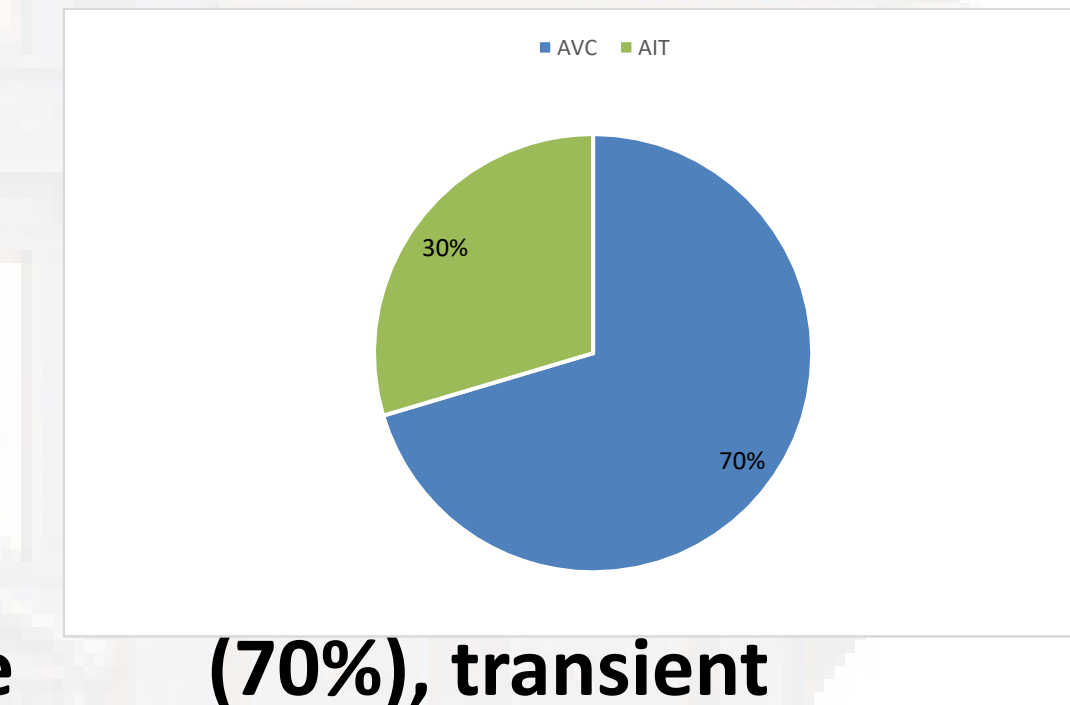
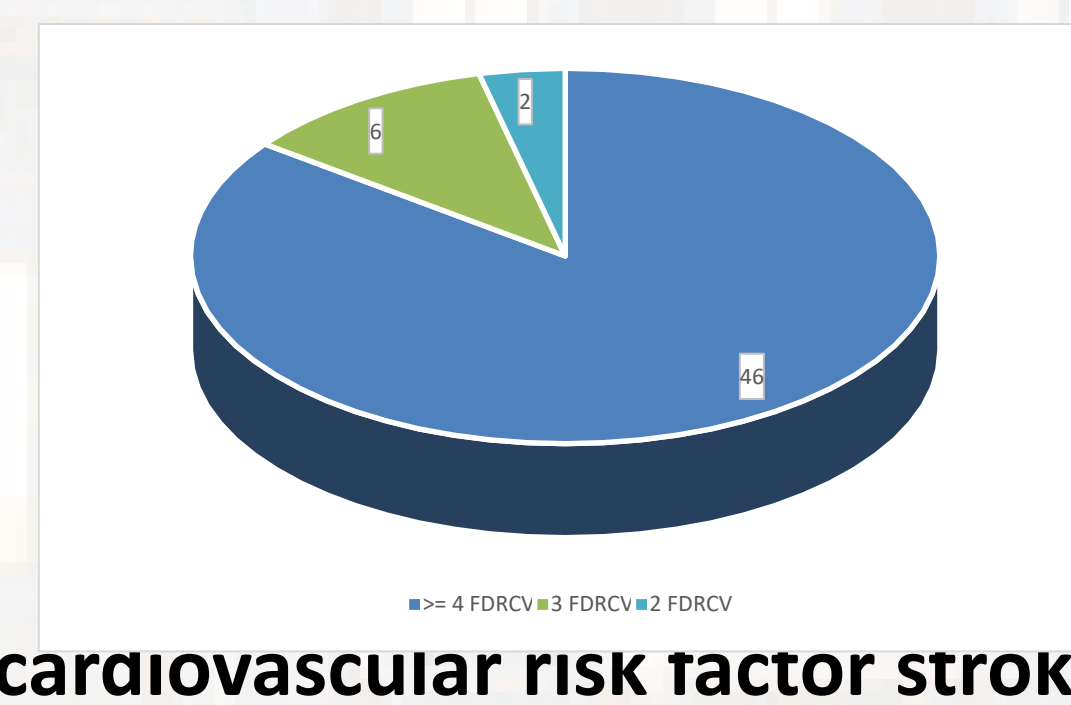
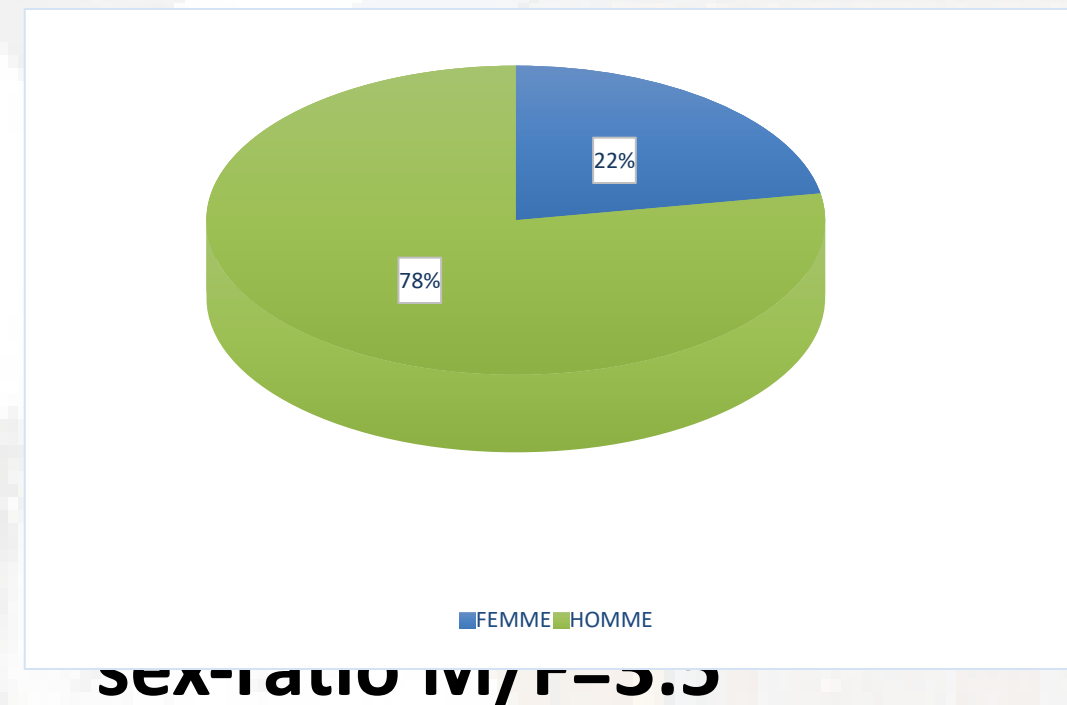
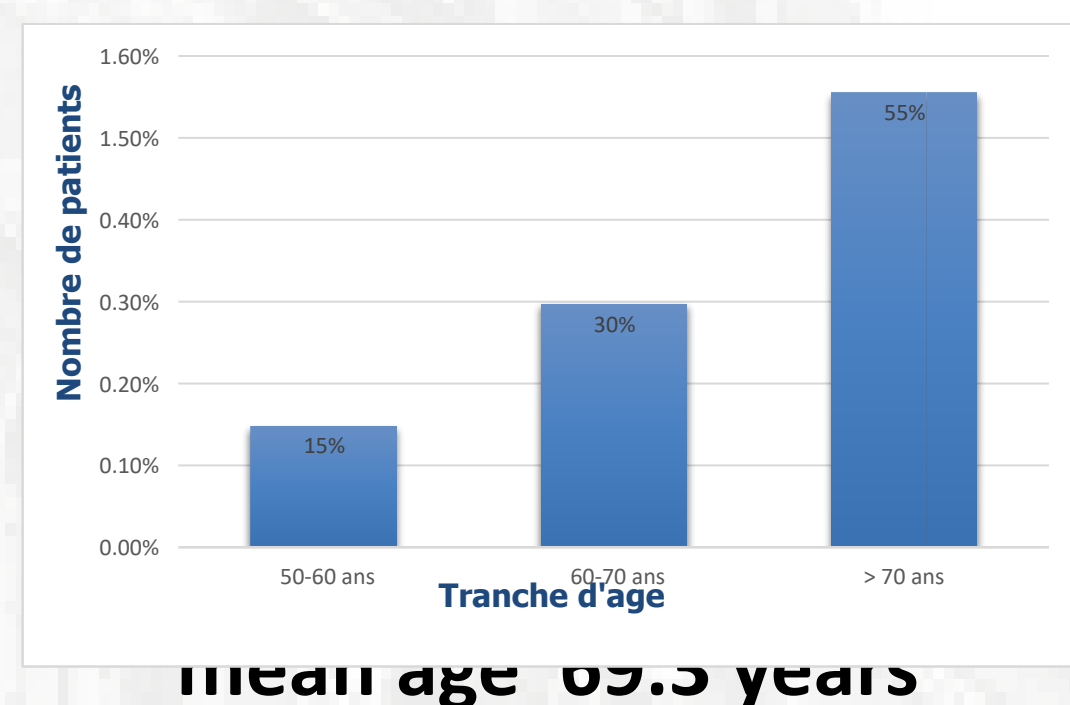
Carotid endarterectomy is a preventive procedure (in the case of symptomatic stenosis, it prevent the recurrence of stroke) that may involve some peri and post-operative complications making it important to choose patients who could benefit the most from it. The aim of this work was to study the results of carotid surgery in symptomatic patients.

**Methods:**

It was a monocentric and retrospective study, including patients operated for atheromatous symptomatic stenosis of the extracranial internal carotid artery. End points were the postoperative onset of neurological complications, cardiac complications, and death in the short and long term but also patient's survival and recurrence of stroke.

**Results:**

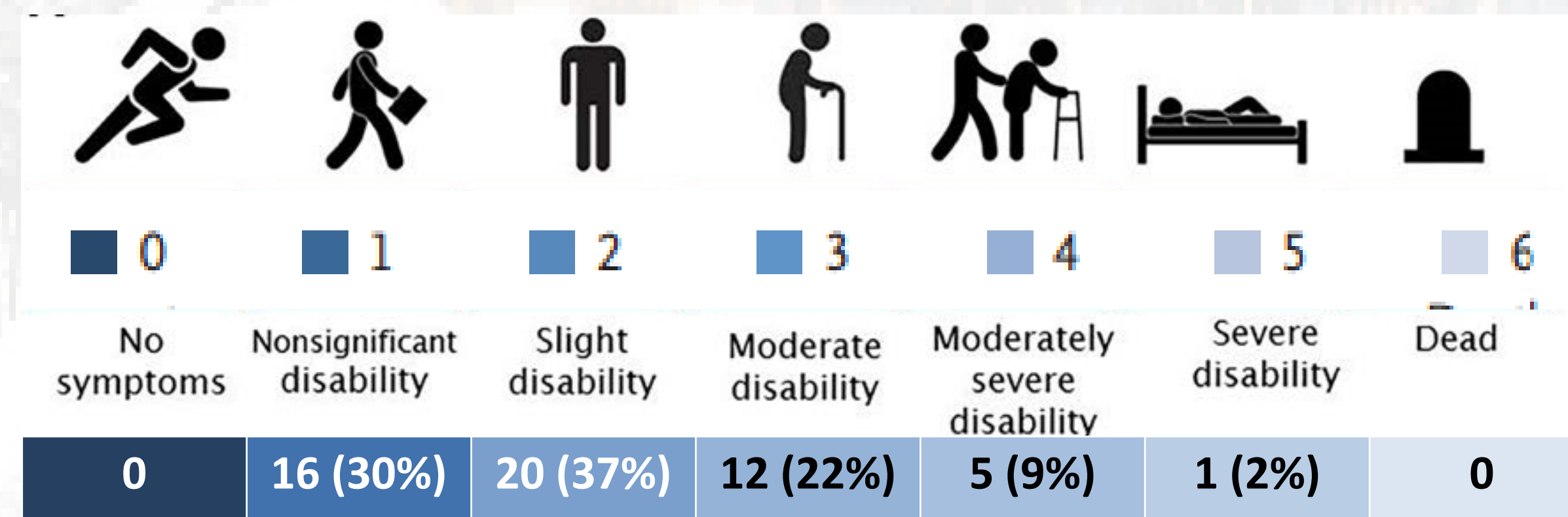
A total of 54 patients underwent carotid endarterectomy for symptomatic carotid stenosis operated from January 1, 2010 to December 31, 2019.



(70%), transient ischemic attack (30%)

Three patients (6%) had a recurrence of their initial symptomatology pending surgery.

**Modified RANKIN Scale**



Carotid endarterectomy with direct closure was the technique of choice (98%). 27 patients (50%) were treated within 14 days of the cerebral ischemic event. 17 other patients (31%) were treated within a month. The remaining 10 patients (19%) were treated within periods varying from 2 to 5 months.

In the perioperative period, no death was reported but we had 5 acute coronary syndromes (9%) and 2 cerebral ischemic events (a transient ischemic attack and a hemorrhagic stroke). The other early complications were cervical hematoma (6%) and peripheral nerve palsy (7%). Our stroke and death rate was 2%. Patients mean follow up was 11 months. Eight late deaths (15%) were spotted, half of them was due to cardiac events. We had no ipsilateral stroke recurrence neither restenosis nor thrombosis.

**Discussion:**

**Benefit of surgery:**

The risk of stroke after a first TIA or minor stroke is estimated at 12% within 90 days of the onset of symptoms, this risk drops to 2% after treatment. Similarly, the recurrence of neurological events is responsible in one third of cases of death or permanent disability.

A simple score (ABCD) to identify individuals at high early risk of stroke after transient ischaemic attack (Rothwell):  
3 risk groups: low, moderate and high.

Letter	Parameter	Value	Score
A	Age	>60	1
B	Blood pressure	>140/90	1
C	Clinical features	Unilateral weakness	2
		Speech disturbance without weakness	1
		Other	0
D	Duration of symptoms	> 60 minutes	2
		10-59 minutes	1
		< 10 minutes	0
D	Diabetes	+	1

**delay of surgery:**

Urgent endarterectomy (48h): Increased risk of PO stroke  
Revascularizations between 48h and 5d: Results similar to those carried out within 14d == Carotid endarterectomy is recommended in the week following the onset of ischemic neurological events while avoiding the first 48 hours.

**Operative risk:**

Study	Perioperative death (%)	Perioperative stroke (%)
Cheng (2017)	0.4	0
Brothers (2015)	0.6	3
Pothof (2018)	1.1	5.5
Our study	0	5.6
Varetto (20017)		4
Pothof (2018)		5.5
NASCET (1991)		5.6
Ecst (1998)		4
Our study		4

**Long term outcomes:**

Study	Late death (%)	Late stroke (%)
Rouiz (2016)	21.3	0.8
Nam (2018)	23.6	1.6
Ferreira (2019)	21	0
Our study	4	0

**Conclusions:**

Carotid endarterectomy associated with best medical treatment is highly beneficial for symptomatic atheromatous stenosis of the internal carotid artery by reducing the risk of death and recurrence of stroke.

**references:**

- Johansson E, CuadradoGodia E, Hayden D, Bjellerup J, Ois A, Roquer J, et al. Recurrent stroke in symptomatic carotid stenosis awaiting revascularization: a pooled analysis. *Neurology*. 2016;86(6):498-504.
- Rothwell P, Giles M, Flossmann E, Lovelock C, Redgrave J, Warlow C, et al. A simple score (ABCD) to identify individuals at high early risk of stroke after transient ischaemic attack. *Lancet*. 2005;366(9479):29-36.