New devices for endovascular embolization of cerebral aneurysms

L. Valvassori
M. Piano
G. Pero
L. Quilici
E. Boccardi

Neurointervenstistica
Ospedale Niguarda
Milano
Consultant and proctor for:

- Covidien/Medtronic
- AB Medica (Balt)
- Microvention
- Codman Neurovascular
- Phenox
- Crossmed (Penumbra)
- Stryker
Why do we treat cerebral aneurysms?
Aim of the procedure

ruptured

unruptured
Aim of the procedure

ruptured

protect from rebleeding
(days, weeks, months, years)
Aim of the procedure

unruptured

protect from first bleeding (forever)
reduce mass effect (symptoms)
Aim of the procedure

Clinical result

Not the images

Images do not correlate with clinical results. Often.
Two great revolutions over the last 25 years

1 – Intrasaccular:
  GDCs and beyond
  Coils
  Balloon remodelling technique
  Self Expandable stents
  Onyx
Two great revolutions over the last 25 years

2 – Extrasaccular Flow-diverters

Most of the difficult cases, including large aneurysms and large necks, are now feasible. Very few recanalizations over time.

This means finally CURE for most aneurysms.
But.....

Still we have difficult and complex cases

Especially at the bifurcations
so

new devices.....

mainly, but not only, for complex lesions...
New intrasaccular solutions

WEB (Sequent Medical)
New solution for coil support

“remodelling without balloon”

Comaneci
New solution for coil support (bifurcation aneurysms)
New solution for coil support
(bifurcation aneurysms)

P-Conus (Phenox)
New solution for coil support (bifurcation aneurysms)

Barrel stent (Covidien)
New solution for coil support
(bifurcation aneurysms)

Pulse rider (Codman)
New solution for coil support
(bifurcation aneurysms)

eClips (evasc)
New coils?
New coils?
(large neck aneurysms)

Medina coils (Medtronic)
Many options

Too many?

How to make a choice?
48 yo w
SAH grade II
Possible solutions
Possible solutions

- coils and balloon
Possible solutions

- coils and balloon
- coils and 2 balloons
Possible solutions

- coils and balloon
- coils and 2 balloons
- stent and coils
Possible solutions

- coils and balloon
- coils and 2 balloons
- stent and coils
- y-stenting
Possible solutions

- coils and balloon
- coils and 2 balloons
- stent and coils
- y-stenting
- p-conus
Possible solutions

- coils and balloon
- coils and 2 balloons
- stent and coils
- y-stenting
- p-conus
- WEB (Luna)
Possible solutions

- coils and balloon
- coils and 2 balloons
- stent and coils
- y-stenting
- p-conus
- WEB (Luna)
- flow-divertor
Possible solutions

- coils and balloon
- coils and 2 balloons
- stent and coils
- y-stenting
- p-conus
- WEB (Luna)
- flow-diverter
- barrel stent
Possible solutions

- coils and balloon
- coils and 2 balloons
- stent and coils
- y-stenting
- p-conus
- WEB (Luna)
- flow-diverter
- barrel stent
- pulse-rider
Possible solutions

- coils and balloon
- coils and 2 balloons
- stent and coils
- y-stenting
- p-conus
- WEB (Luna)
- flow-diverter
- barrel stent
- pulse-rider
- eclips
Possible solutions

- coils and balloon
- coils and 2 balloons
- stent and coils
- y-stenting
- p-conus
- WEB (Luna)
- flow-diverter
- barrel stent
- pulse-rider
- eclips
- surgery?
Possible solutions

- coils and balloon
- coils and 2 balloons
- stent and coils
- y-stenting
- p-conus
- WEB (Luna)
- flow-diverter
- barrel stent
- pulse-rider
- eclips
- surgery? nothing?
It was 2007: what did we do at that time?

And what would we do today?

Sorry, we don’t have time.
Val., aa. 30, ESA HH1
prima
dopo
Ctr a 6 mesi
Ctr a 6 mesi
$\text{Ctr a 3.5 anni}$
Conclusions

Still we have situations for which extrsaccular devices are not ideal

New technologies are welcome….

…..provided that we keep on evaluating and adopting them critically, because we look for CLINICAL results

And do not forget surgery
Thank you

Luca.valvassori@ospedaleniguarda.it