Exchange maneuver during neurointerventional procedures and complications

Key points:
- ***Dangerous***
- ***Prevent them as much as possible***

Use a tiny J shape on the 300cm wire

Ensure that you are not alone

Continuously use bi-plane projections in order to ensure good distal tip visibility

Second operator should focus on guidewire tip movements all the time

Perform slow exchange

Do not advance in M4

Use guitar string technique: pinch the microcatheter at the level of the valve during the exchange in order to prevent easy retraction of the microcatheter;
Risk of perforation high: 1) around M1-M2 due to insular branches which are not obvious; 2) while pushing the second microcatheter in the M1 due to inadvertent push in the M4 of the guidewire;
If the exchange microcatheter blocks in the ophthalmic artery you may use a second 0.10 microguidewire inside a 0.27 microcatheter in order to reduce the gap; If you have a dual lumen balloon you may gently inflate at this point;
Perform a late run after the maneuver – control unsubstracted images;

Perforation

Forget about the aneurysm – focus exclusively on the hemorrhage; Reverse heparin immediately;
Ask somebody to compress the carotid (balloon guide catheters may be useful if you anticipate high perforation risk during the procedure);
Rapidly mount a dual lumen balloon and inflate it for at least 5 minutes;
Late control runs after with unsubstracted images and control in two projections;
Perform come beam CT to assess the situation;
Adjust the strategy of the intervention keeping in mind that you had a bleeding, with high ICP and subsequent possible vasospasm and that your patient might need a extraventricular drain or subsequent surgery;