LOOKING BACK
While Approaching The Future

Dr. Denis Melançon back when he started in 1966

"Cover designed by Jean-Paul Acco at Neurophotography"
As I approach the sun setting on my medical career, the next few Neuro Images will be a retrospective that will recall mile stones in my professional life of 40 years at the Neuro. As an introduction, I present this picture of the sun setting at Captiva Island in Florida. While in Florida, I also had the opportunity to visit the former home of Ernest Hemingway. It was an appropriate excursion because nowadays I kind of feel like Santiago from The Old Man and the Sea, if you haven’t read it yet, go find a copy...

“I like to listen. I have learned a great deal from listening carefully. Most people never listen.”

– Ernest Hemingway

I would like to also invite you to share stories, photos or momentos from the past 40 years, I may need some help with the accuracy of some events. So please keep in touch and visit NeuroImage’s website http://www.mni.mcgill.ca/neuroimage/index.html

Sunset at Captiva Island, Florida

Ernest Hemingway’s house in Key West, Florida
Intradural vertebral artery dissection presenting with subarachnoid hemorrhage

A slide presentation by Dr. Donatella Tampieri

This is a case study in a powerpoint format, that I gave during last April’s Study Club. The slides present the case description, the symptoms, the CT scans, the angiograms, an illustration of the pathology and the treatment suggested.

**Case description: 33 y.o. male**

- Drug addict
- Severe headache
- Neck pain
- LP: positive
- CT plain shows focal dilatation of the right vertebral artery

CTA confirms the focal dilatation (↑) followed by a focal stenosis (→)

Angiogram of the right vertebral artery demonstrating a pseudo-aneurysm involving the intradural portion of the vertebral artery compatible with intradural vertebral dissection

- 24 hours later the patient presented sudden onset of headache and loss of consciousness.
- The CT demonstrated subarachnoid, intraventricular hemorrhage and acute hydrocephalus.

The Hospital & Institute Directors Throughout the Years

The Montreal Neurological opens with Dr. Wilder Penfield as its first director of the Hospital & Institute 1954 – 1960

Dr. Rasmussen, Director MNH & MNH 1960 – 1972

Dr. Melanson starts working at the Neuro 1966

Joy Shannon, MNH Director 1972 - 1975, Dr. Feindel, MNH Director 1972 - 1984

Alphonse Howlett 1975 - 1980 Director MNH

Dr. Baxter 1984 - 1992 Director MNH

Joy Shannon 1984 - 1996 returns as Director MNH

Dr. Murphy 1992 - 2003 Director MNH

Jim Gates 1997 - 2004 Director MNH

Dr. Colman 2002 – present Director MNH & MNH
Vertebral artery dissection

- Elevation and separation of the intima from the media or, less frequently, of the media from the adventitia leading to:
  - Reduction of the arterial lumen
  - Formation of a blind pouch (pseudoaneurysm)
  - False lumen (rare)

Carotid/Vertebral Dissection: Pathophysiology

- Traumatic: penetrating injury, neck trauma, rapid neck movement, manipulation, effort.
- Spontaneous: in pts with connective tissue disorders (FMD, cystic medial necrosis, Marfan, Ehlers-Danlos type IV)

Vertebro-Basilar Dissection: Clinical Presentation

- Neck pain
- Headache
- Sign of Brainstem Ischemia in case of intracranial extension (50%)
- 26-43% of pts present with Wallenberg
- Vertigo
- Nausea, vomit
- Spinal Cord Ischemia

Vertebro-Basilar Dissection

- 10% mortality in VA dissection
- 11% recurrence rate in the first 10 years, 1% after

JP Koehan et Al. Carotid and Vertebral Dissection, eMedicine
**Vertebral Dissection: Treatment**

- Conservative
- Occlusion of the parent artery
- Stenting of the dissection
- Stenting and coiling of pseudoaneurysm

- 16 pts with intracranial vertebral pseudoaneurysm were treated with parent artery occlusion

  W Halbach et al: J of Neurosurgery, 1993(2) 183-191

- 29 pts with SAH caused by Vertebro-basilar dissection
- Tx: 14 conservative
  - 13 occlusion of parent artery
  - 2 coils of pseudo-aneurysm

Re-bleed was observed in 9 pts during the first 12 days in the group of patients treated conservatively. No case of re-bleed in cases treated endovascularly

B Ranegren et al: Neuroradiology 2005 Feb47(2)97-104

**Treatment**

- Conservative: anticoagulation or antiplatelets
- Endovascular: occlusion of the parent artery reconstruction of the arterial wall with stent (use of coils is debated)

We are proposing telescopic insertion of stents (two in this case) to seal the flap and reconstruct the inner arterial lumen with juxtaposition of the intima and media to the adventitia.

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**Major Advancements in Radiology Since 1934**


1934: Austrian, Karl Dussik first applies Ultrasound to medicine
1952: in U.S.A., physicist, Felix Bloch at Stanford & Edward Purcell at Harvard develop Nuclear Magnetic Resonance (NMR) & share the Nobel Prize for Physics
1973: in U.S.A., Michael E. Phelps & Edward J. Hoffman develop positron emission tomography (PET) scans
1978: Allan Cormack of Tufts University & Godfrey Hounsfield of EMI Labs in England develop computerized tomography and share Nobel Prize in Physiology
2003: American chemist Paul Lauterbur & British physicist Peter Mansfield develop Magnetic Resonance Imaging (MRI) and share the Nobel Prize for Physiology or Medicine
Since the beginning, Neuroradiology has always acquired the best for taking X-rays.

In the 60’s, angiography was performed with a Schönander Changer, serial six films.

In the 70’s, a Franklin roll film changer was used with a Picker stereoscopic tubes system.

In the 80’s, a digital angiography unit was introduced by Technicare, which was replaced after a few years by a Siemens angioscope, upgraded over the next 20 years.

We recently acquired the GE unit shown in the picture.

Stereoscopic angiography has remained our golden standard all over the years.

**Major Events in Radiology at the Neuro**

- 1934, The Neuro opens its doors
- 1960, Dr. Feindel installed the Body Scanner
- 1976, the Neuro installed the Body Scanner
- 1973, Dr. Feindel installed the CAT Scanner, the first in Canada
- 1984, the propulsion chamber
- 1984, The MRI is installed in the Webster Pavilion
- 1987, the Siemens Angioscope
- 1989, The Exhibit for ASNR
- 1995, Dr. Melanson celebrates X-Ray’s Centennial with an exhibit at the McCord Museum
- 2000, this is the new GE scanner??
Pacchioni's most important works particularly concerned the anatomy and function of the dura mater. His first dissertation on this dates from 1701 on, the most important being Dissertatio epistolaris de glandulis ... (1705) in which he described the arachnoidal granulations which are named after him.
The Heron

Athena, the Greek goddess of wisdom, employed a Heron as one of her divine messengers, a symbol of righteousness, also a symbol of contemplation, vigilance, divine wisdom, and inner quietness.

In Chinese tradition, long-necked birds such as cranes, egrets, and herons represent longevity and good fortune.

This is what I would wish for each of you.

According to First Nations people the Heron is a symbol of being very patient, graceful and easygoing.

This sentiment is what I had wished for myself.

One more picture: I took a picture of this blue heron during that same vacation in Southwest Florida.