Value of MRImaging in Bell's palsy

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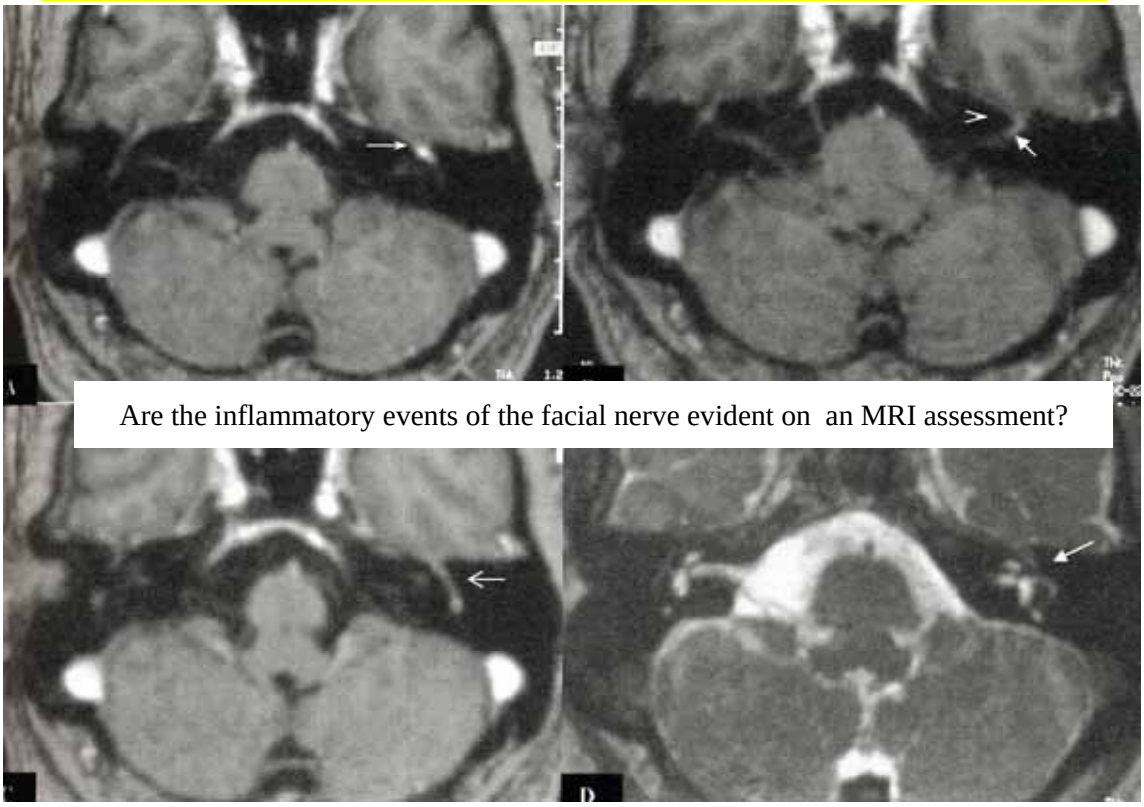
- Are the inflammatory events of the facial nerve evident on an MRI assessment?
- Are the MRimaging-enhancing lesions specific?
- Are there correlations between imaging and surgical findings?
- Is MRimaging helpful for facial nerve decompression decision making?

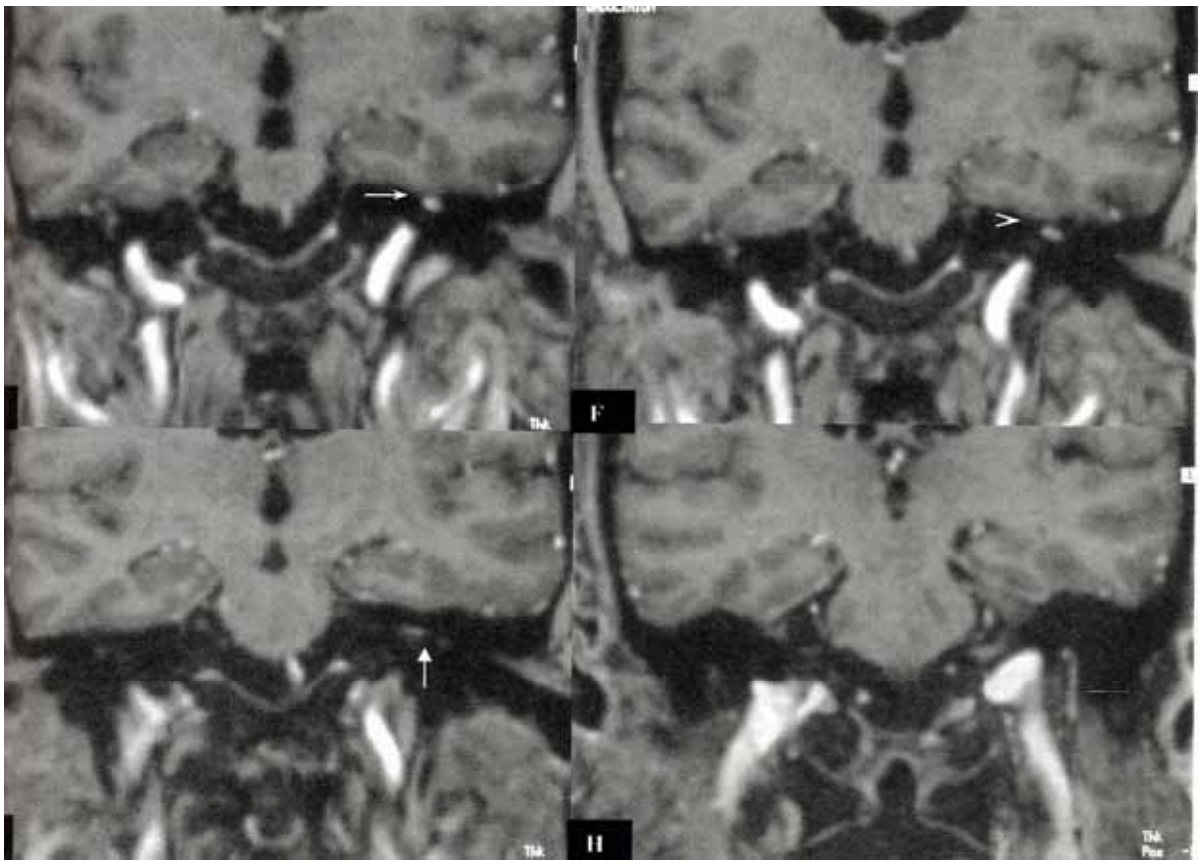
Gadolinium-enhanced facial nerve lesions on T1 sequence

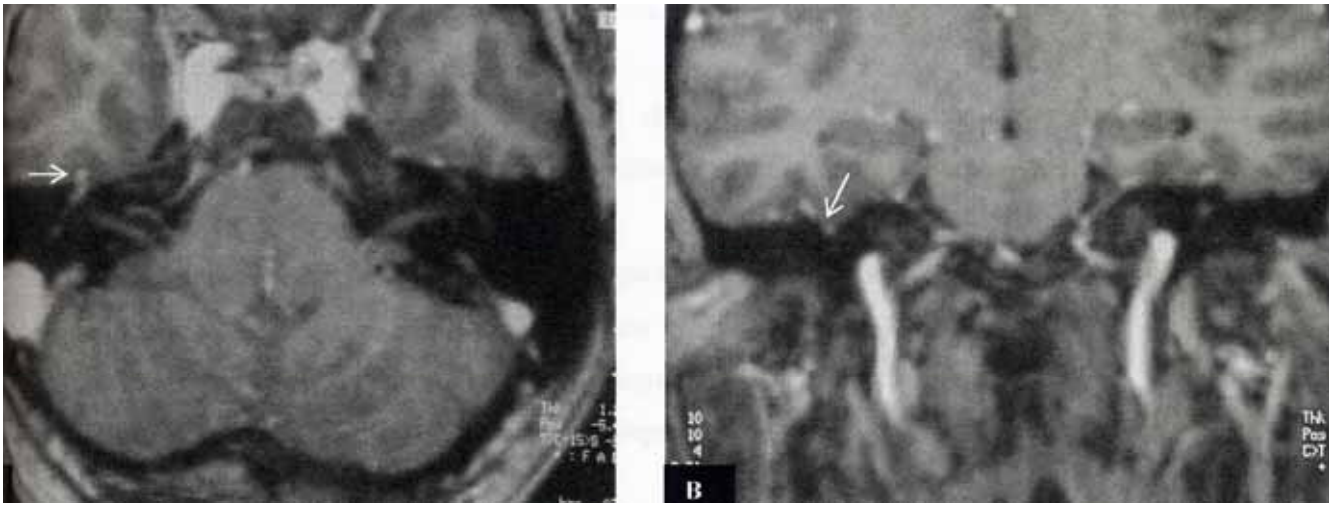


Are the inflammatory events of the facial nerve evident on an MRI assessment?

High-intensity facial nerve lesions on T2 CISS sequence

Are the inflammatory events of the facial nerve evident on an MRI assessment?

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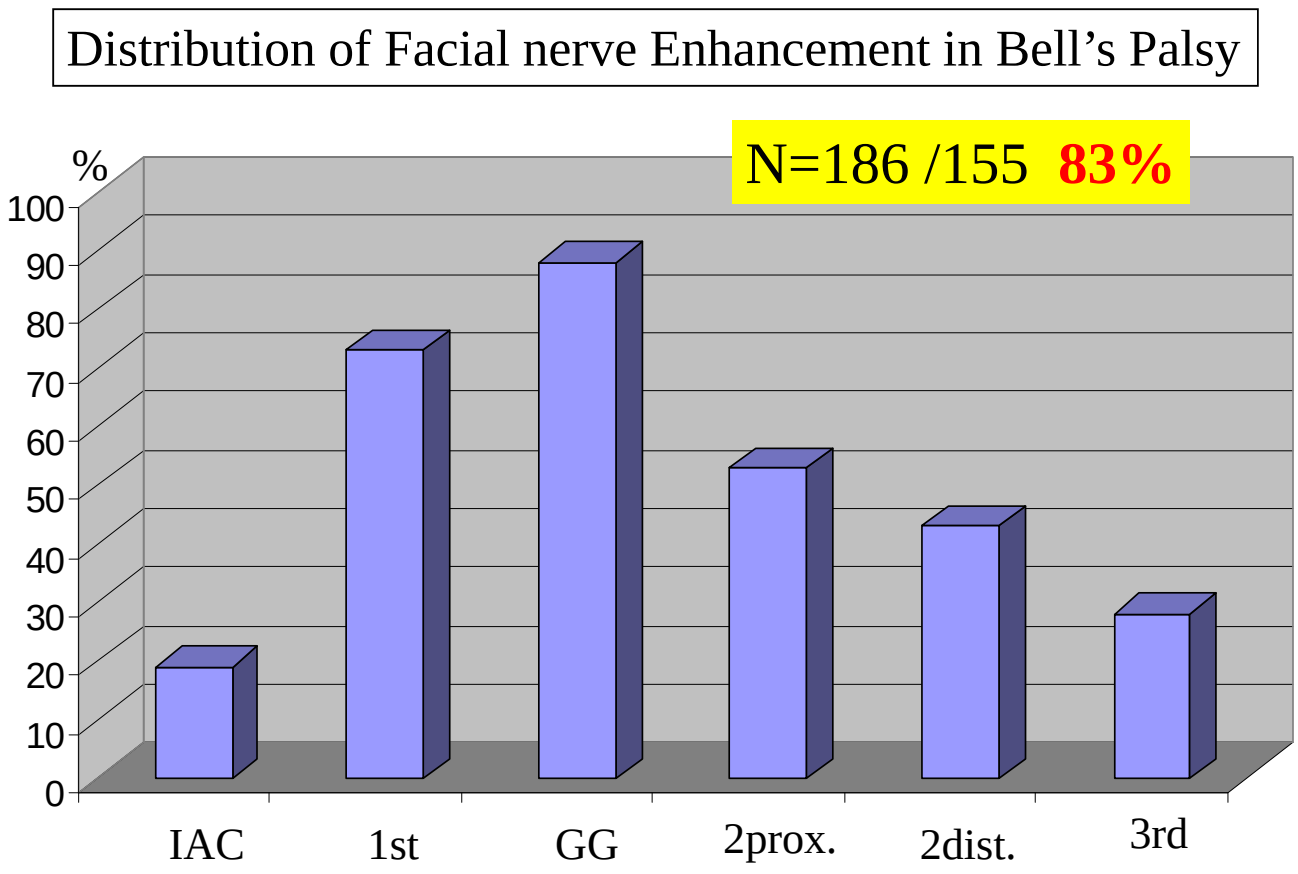
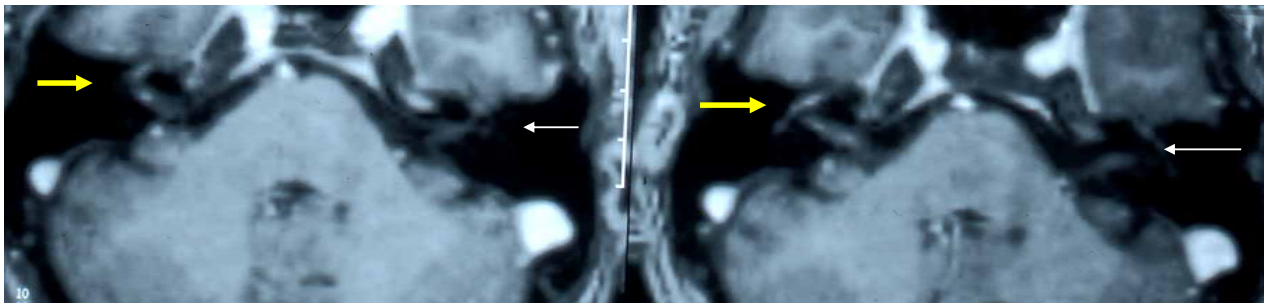
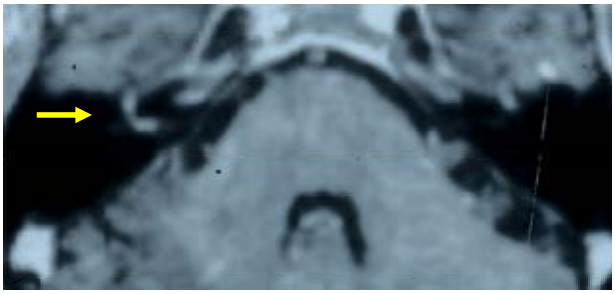

Distribution of Facial nerve Enhancement in Bell's Palsy
N=186 /155 83%
%
100
90
80
70
60
50
40
30
20
10
0
IAC
1st
GG
2prox.
2dist.
3rd

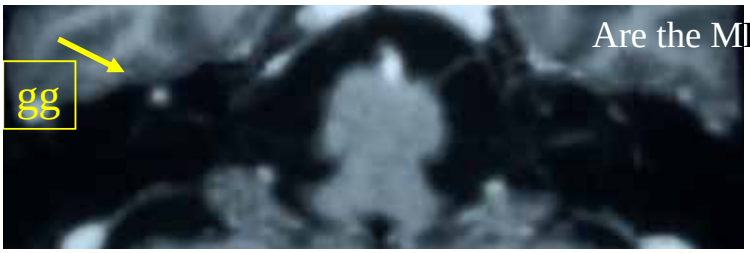
Are the inflammatory events of the facial nerve evident on an MRI assessment?



Gadolinium-enhanced MRI usually occurs in the distal internal auditory meatus and labyrinthine/geniculate segments.



Are the MRImaging-enhancing lesions specific?

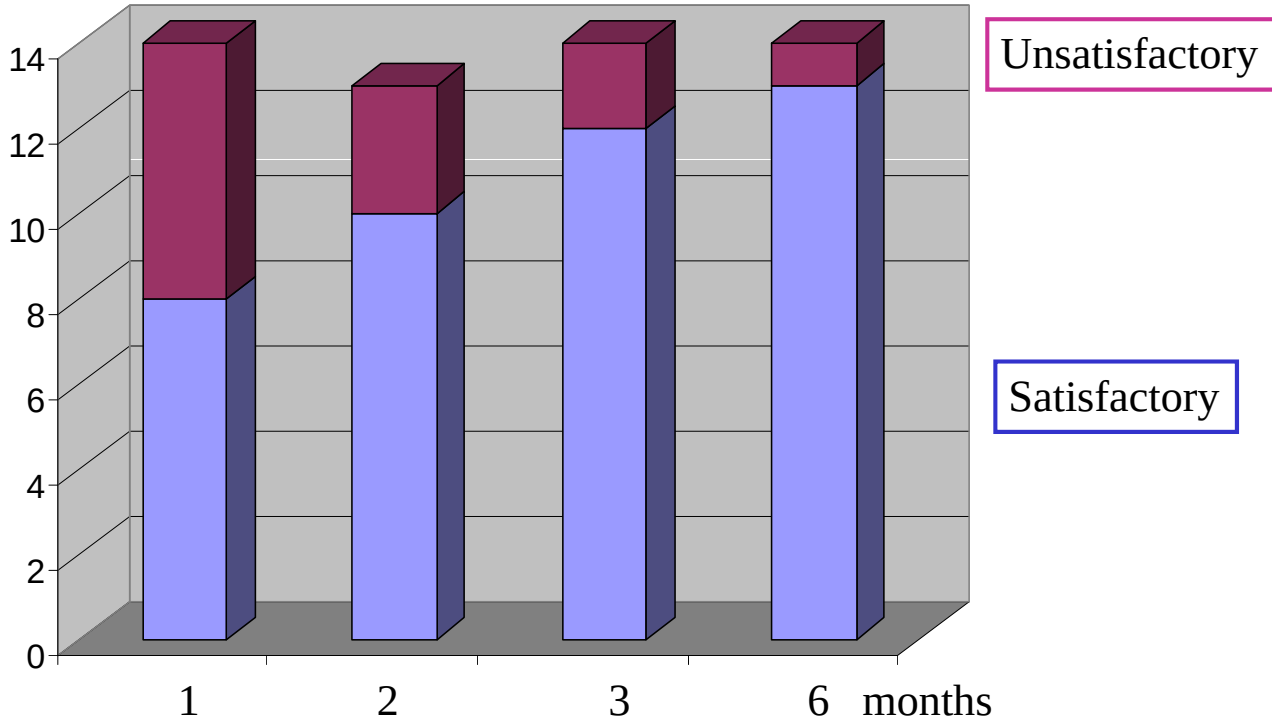


Correlation between enhancement and severity

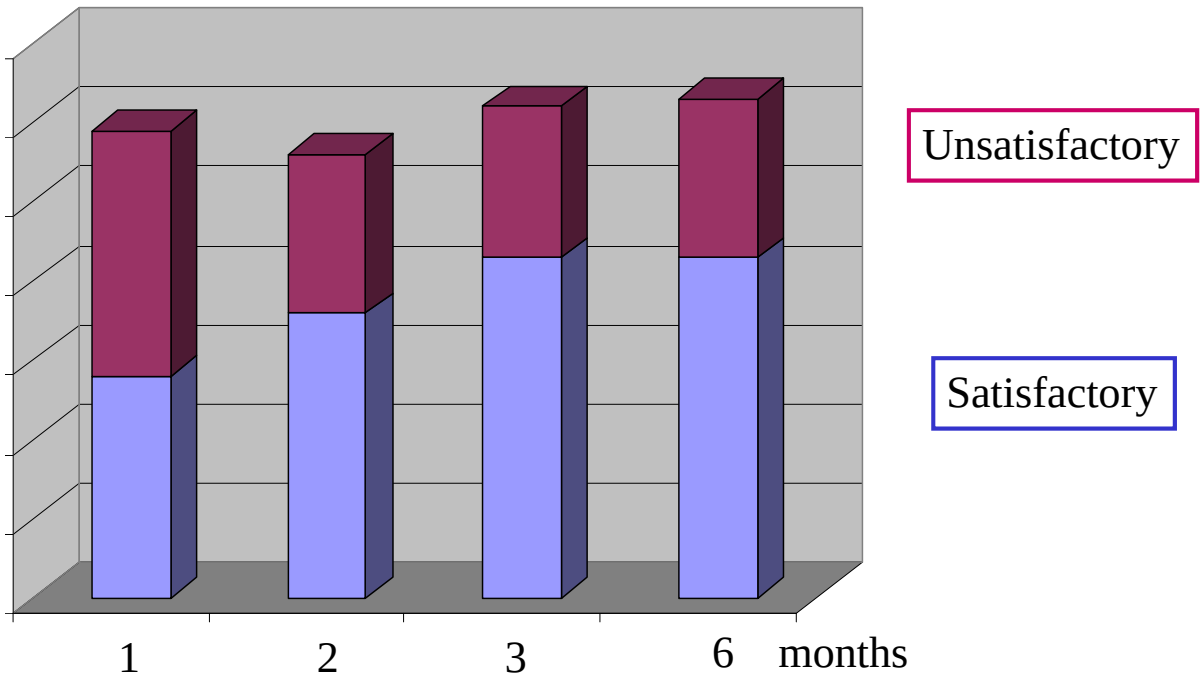
No correlation between enhancement and prognosis

Normal MRI in 17% (181/ 32)

Outcome of 14 Bell's palsies without facial nerve enhancement



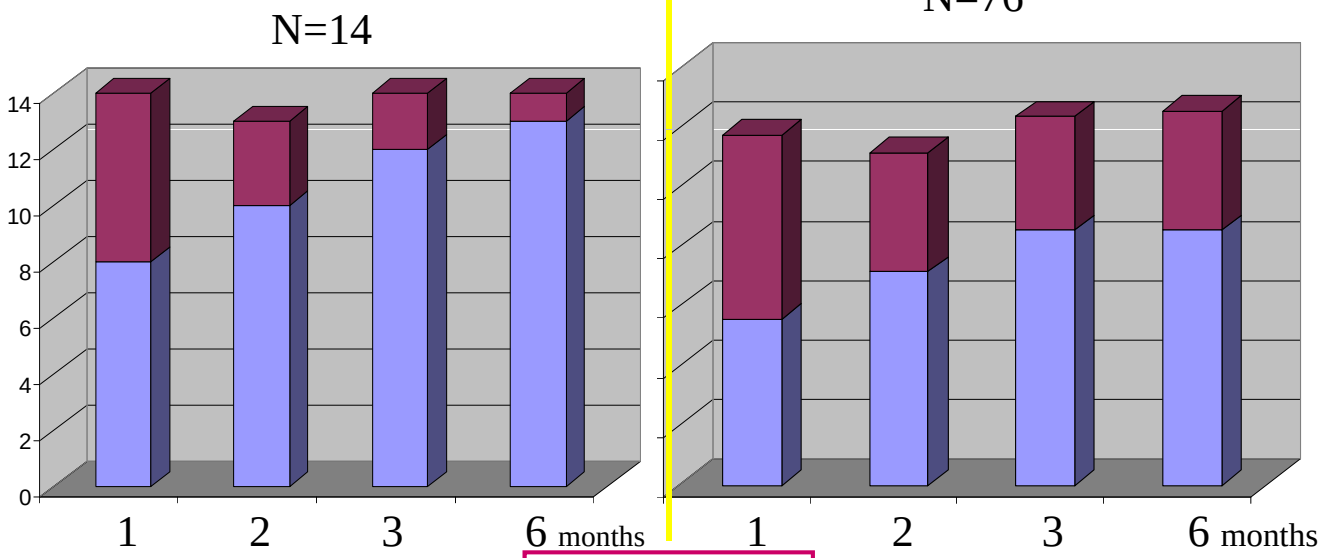
Natural Outcome, after 6 months, on 76 Bell's palsies with imaging-enhancing lesion of the facial nerve



Clinical Natural Outcome in Bell's palsies

Normal MRI in 17% (181/ 32)

imaging-enhancing lesion



Unsatisfactory

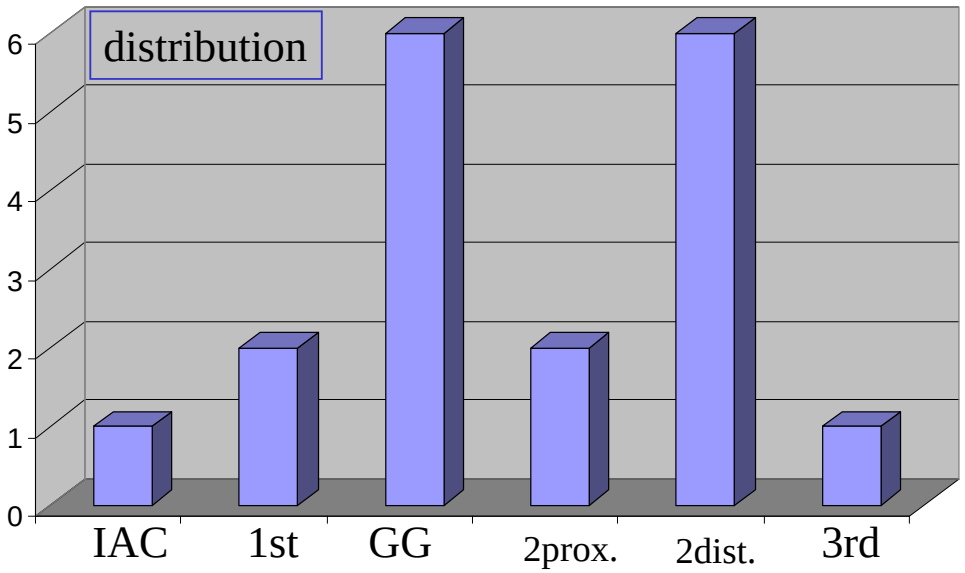
Satisfactory

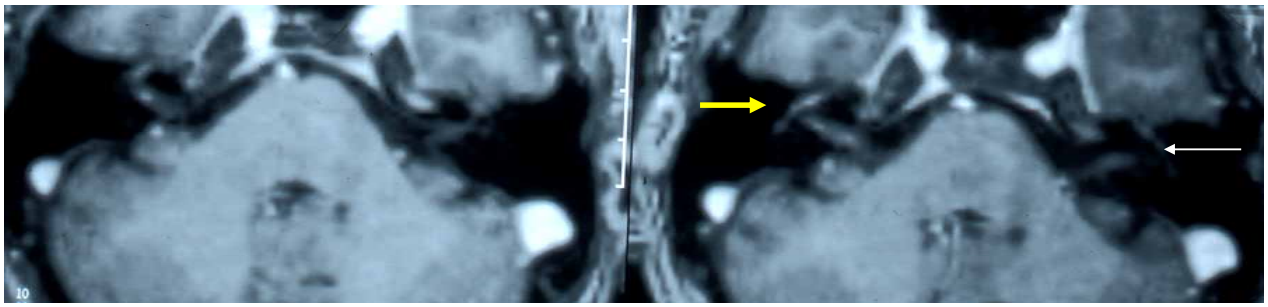
Facial nerve enhancement without facial palsy

186 / 14 cases **7,5%**

→ Less signal intensity

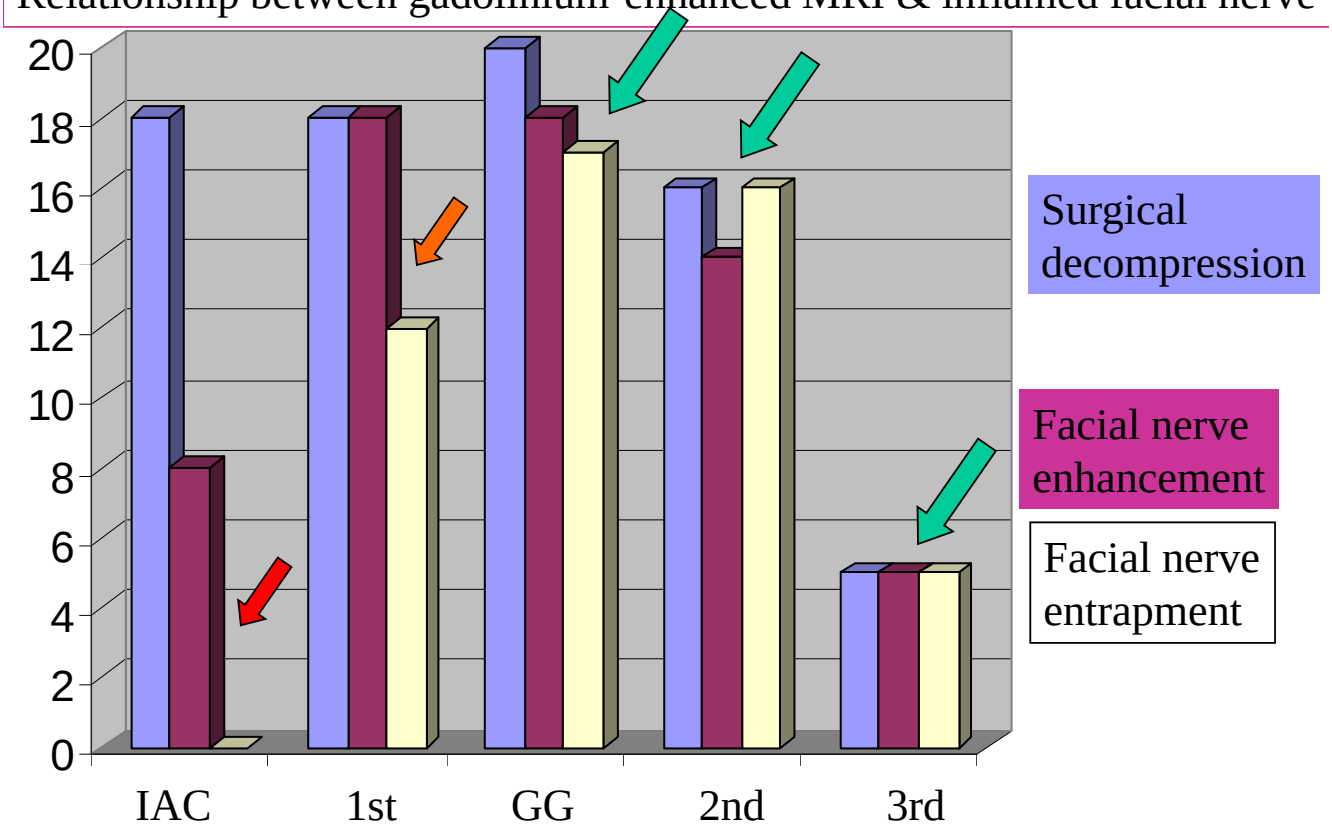
→ Never with normal MRI on paralysed side

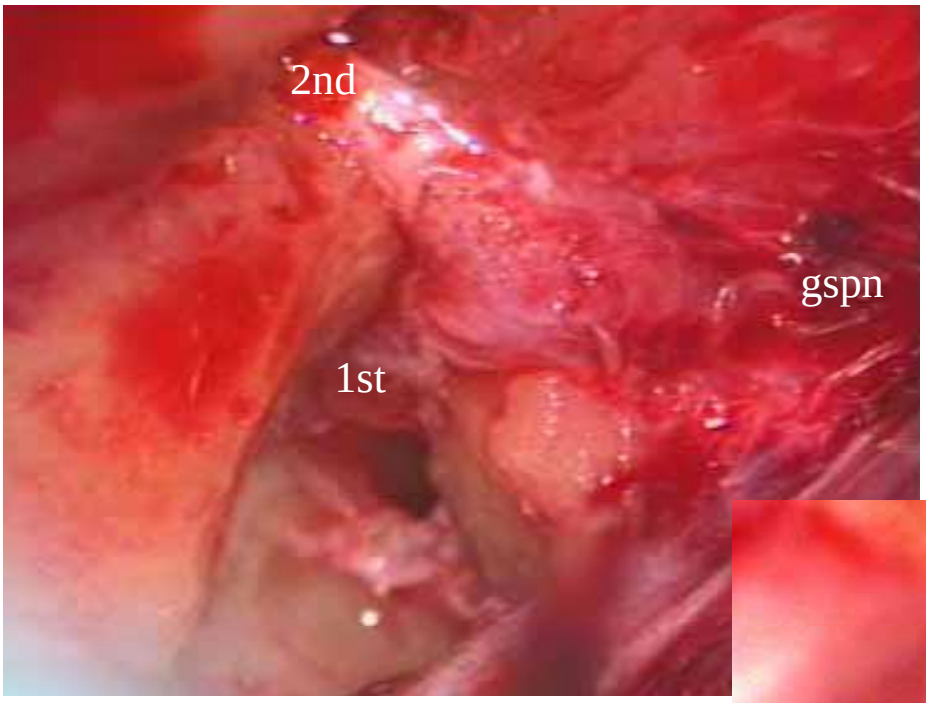




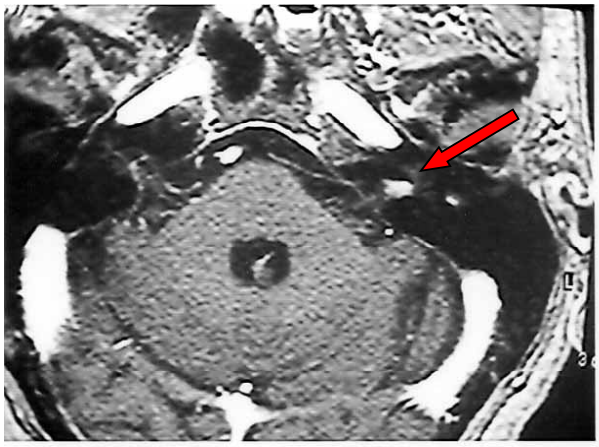
Are there correlations between imaging and surgical findings?

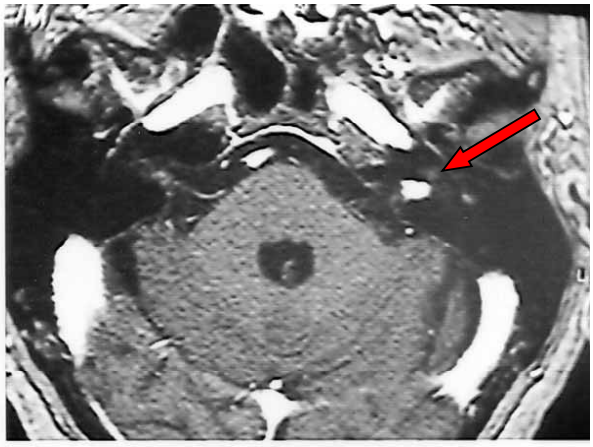
Relationship between gadolinium-enhanced MRI & inflamed facial nerve

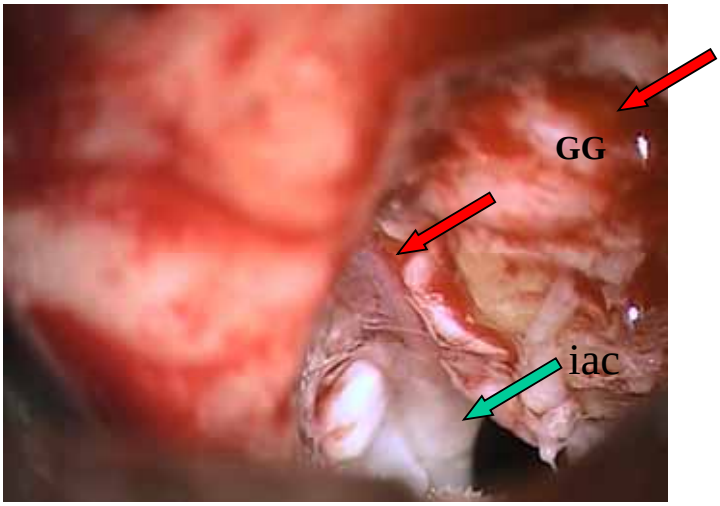


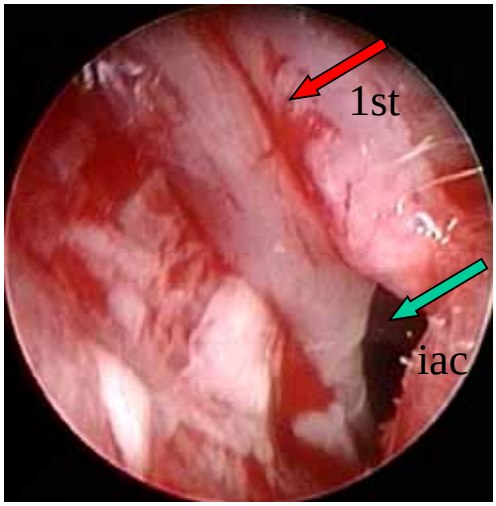


Are there correlations between imaging and surgical findings?

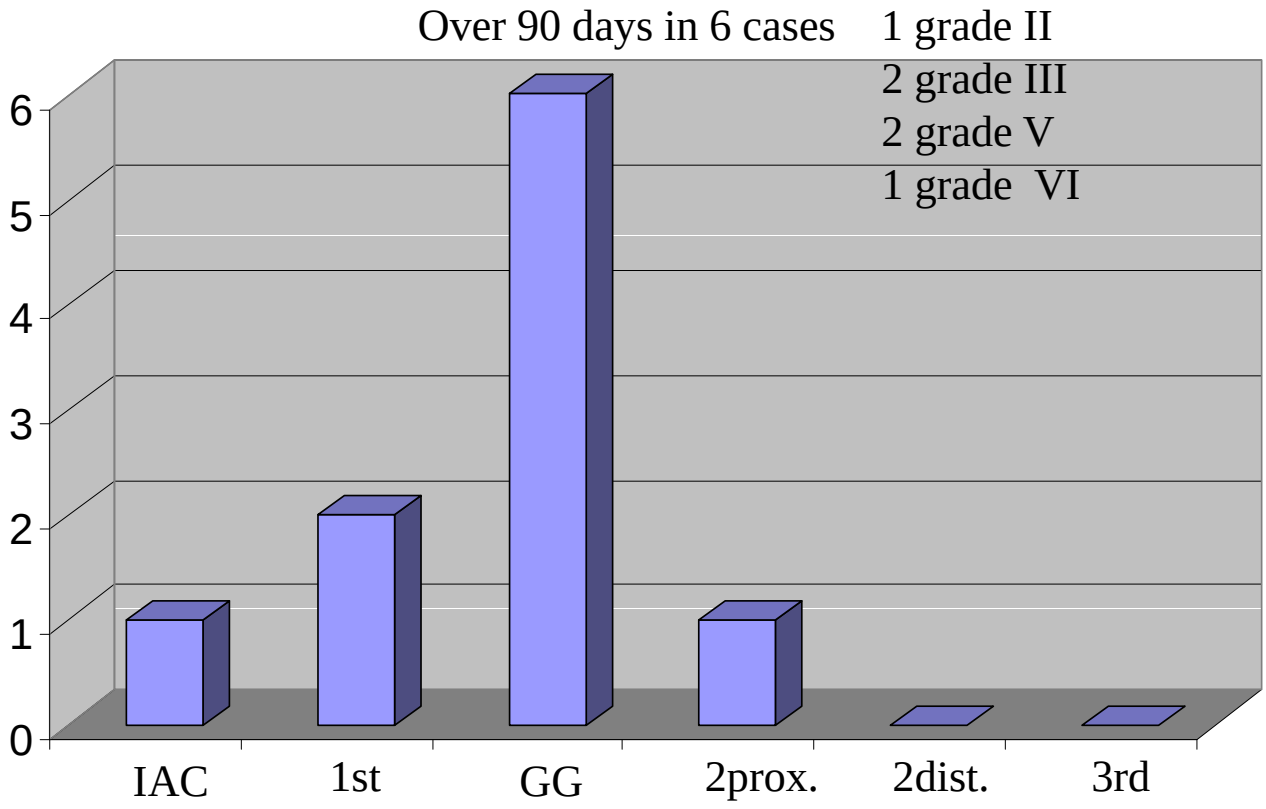








Distribution of Facial nerve Enhancement in Bell's Palsy



Is MRimaging helpful for facial nerve decompression decision making?

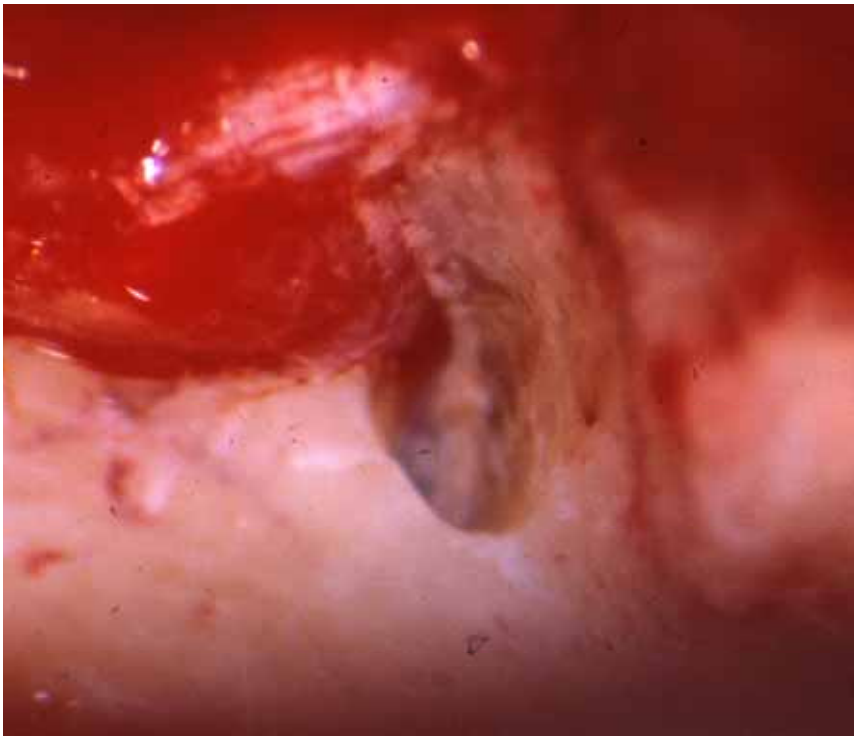
27 delayed facial decompressions

(1990-2005)

- Preoperative
  HB grade IV: 12 cases
  HB grade V: 11 cases
  HB grade VI: 4 cases
- SURGERY 1 to 4 months after the onset
  (14 Ramsay Hunt eruption)

- 3 months postoperative
  HB grade II: 8 cases,
  HB grade III: 13 cases
  HB grade IV: 6 cases
- 6 months postoperative
  HB grade II: 9 cases
  HB grade III: 15 cases
  HB grade IV: 3 cases

Is MRimaging helpful for facial nerve decompression decision making?



Is MRimaging helpful for facial nerve decompression decision making?

3 early facial decompressions

(2002-2005)

- Preoperative
  HB grade VI: 3 cases
- IneffectiveMedical Treatment
- SURGERY

3 weeks after the onset

- 3 months postoperative
  HB grade I : 2 cases
  HB grade II: 1 cases

Is MRimaging helpful for facial nerve decompression decision making?

Early versus late decompression

Clinical evaluation in 14 cases of Ramsay-Hunt syndrome

	2 to 3weeks	3 to 5weeks	Over 6 weeks
	N = 3	N = 5	N = 6
Grade I / II	3	1	
Grade III		2	3
Grade IV		2	3

Requirements for facial nerve decompression decision making

1-Patients who do not show <u>any evidence</u> of recovery until two weeks after the onset of their palsies

2-with Positive gadolinium-enhanced MRI → lead to the surgery

Enhancement location → leads to the selection of the approach