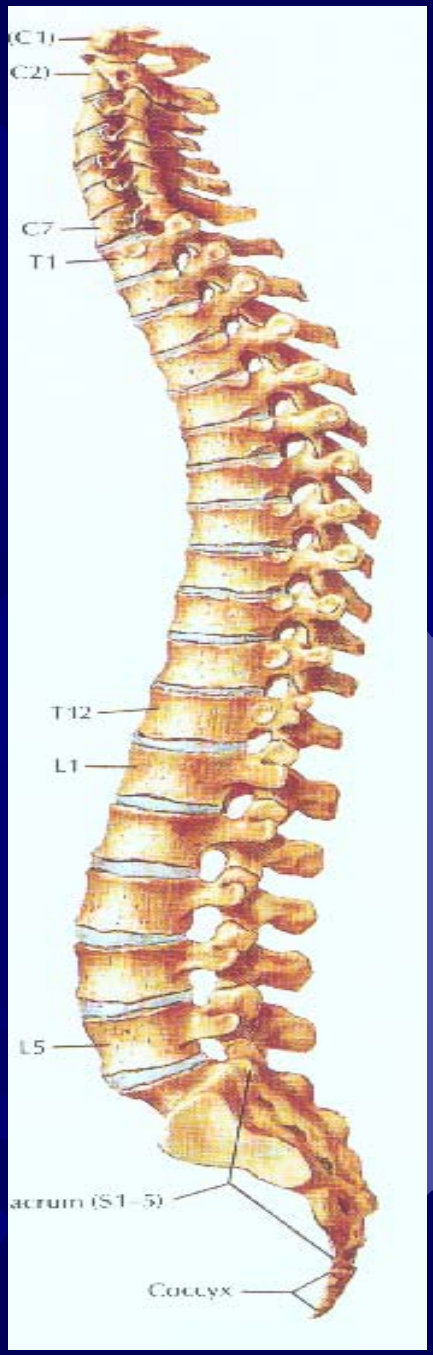
MICROLUMBAR DISCECTOMY STATE OF ART TREATMENT FOR PROLAPSED LUMBAR INTERVERTEBRAL DISC



SPINAL SURGERY

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INTRODUCTION

- 1937 – Pool invented minimally invasive surgical spinal techniques.
- 1939 – Love described basic principles of microdiscectomy.
- 1953 – Mallis – Invented biopolar coagulation
- 1950 – & later Development of versatile operating microscopes

MICROLUMBAR DISCECTOMY

- 1973 – Scoville laid principles
- 1974 – Caspar developed technique
- 1977 – G.M.Yasergil and
- 1978 – Williams independently did modern micro lumbar discectomy.

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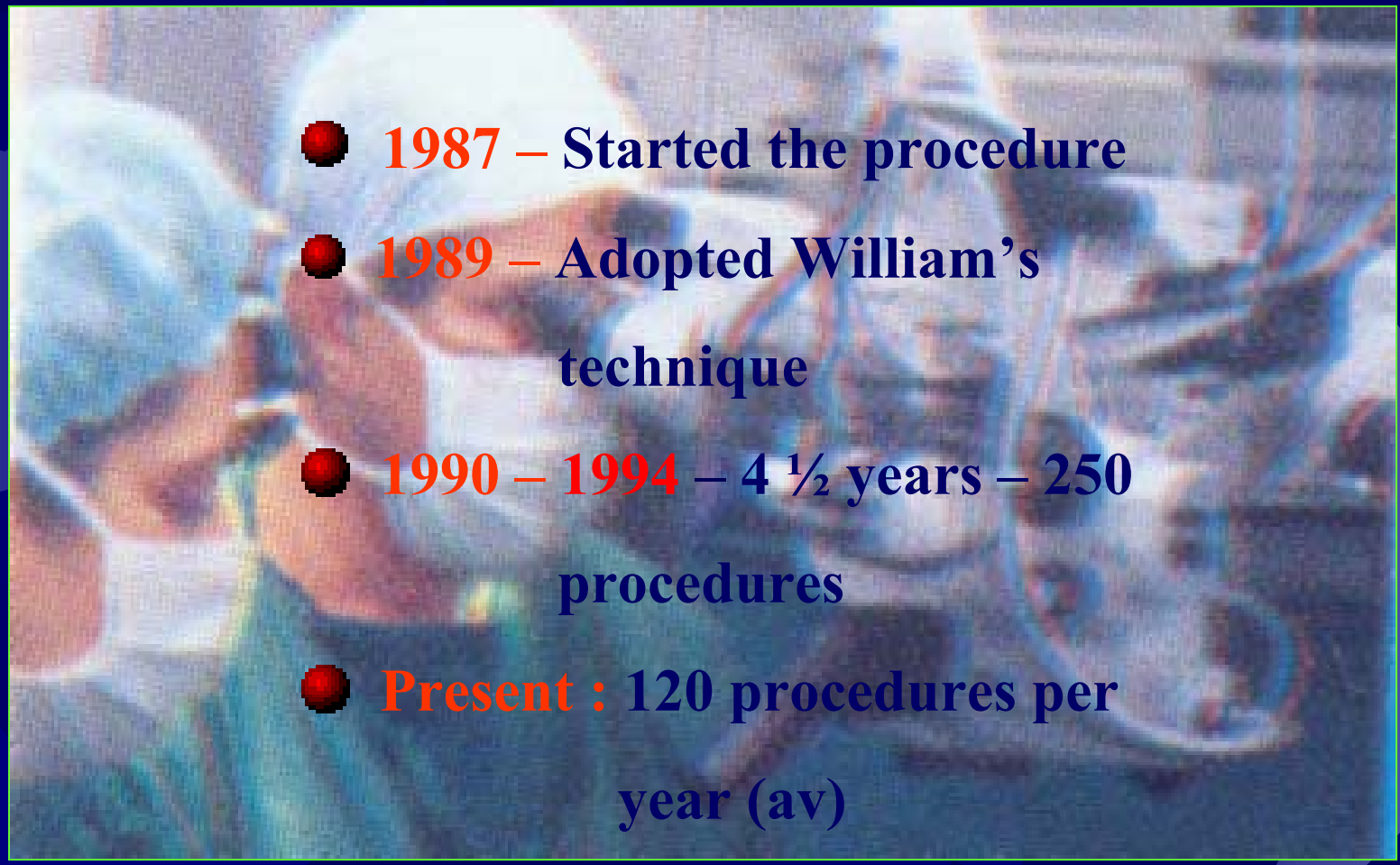


- 1987 – Started the procedure
- 1989 – Adopted William's technique
- 1990 – 1994 – 4 ½ years – 250 procedures
- Present : 120 procedures per year (av)

THE TECHNIQUE

- Procedure of choice for a given case of PIVD
- Minimal retraction of tissues.
- Direct 3-D magnified vision.
- Excellent illumination.
- Meticulous haemostasis.
- Minimum handling of nerve roots.
- Effective decompression of nerve roots.

PROCEDURE OF CHOICE

For :

i) PIVD

ii) Lateral rescess stenosis

iii) Excision of osteophytes.

TYPE OF DISC PROLAPSE

Micro lumbar discectomy is useful

i) Lateral

ii) Far out lat.

iii) Medial

iv) Midline

v) Multiple level and

vi) Bilateral disc prolapses.

THE TECHNIQUE

- General anaesthesia
- Table flat
- 2 Bolsters 26” by 13”
- Pt. lying prone
- Mallis bipolar coagulator
- Aesculap micro instruments
- V. Muller unilateral micro retractor

SPINAL SURGERY

THE OPERATING MICROSCOPE

- Carl Zeiss – promagis ceiling suspended operating microscope
- 300mm objective

SPINAL SURGERY

THE TECHNIQUE

- Blood loss – 20ml
- Operation time: 1 Hr. & 10 min.
- Antibiotics – 2 doses of 1gm cefotaxime before and after surgery
- No shaving, no catheter, no redivac


SPINAL SURGERY

CRITERIA FOR SELECTION

- Age – No limitations

  Youngest – 13 yrs

  Oldest – 87 yrs

- Majority (85%) between 21 to 50 yrs

CLINICAL DATA

- **Period 6 years from**

  (Nov. 1998 till Oct.2004)

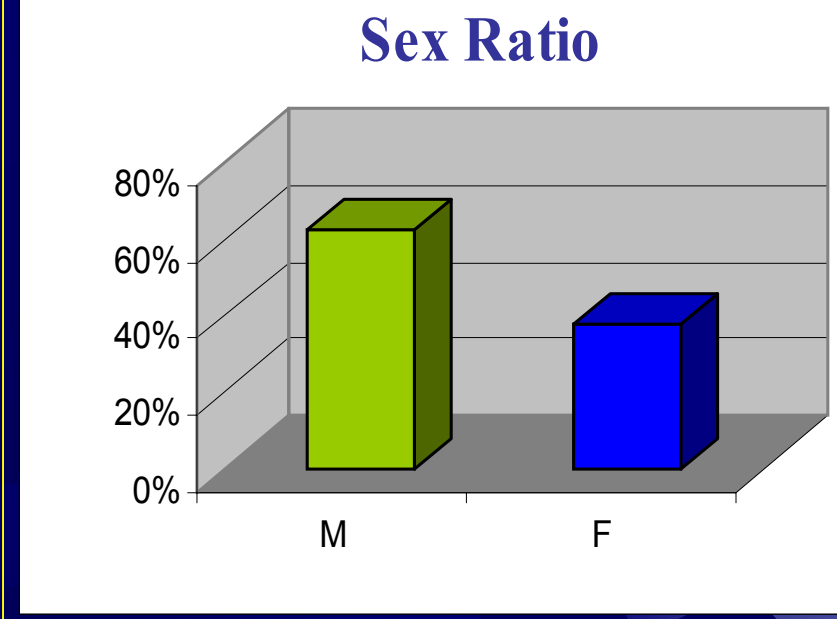
- **No. of cases = 550**

- **Follow up = 80% - 3 yrs**

  = 20% - 2 yrs

SEX RATIO

- Male – 62%
- Female – 38%

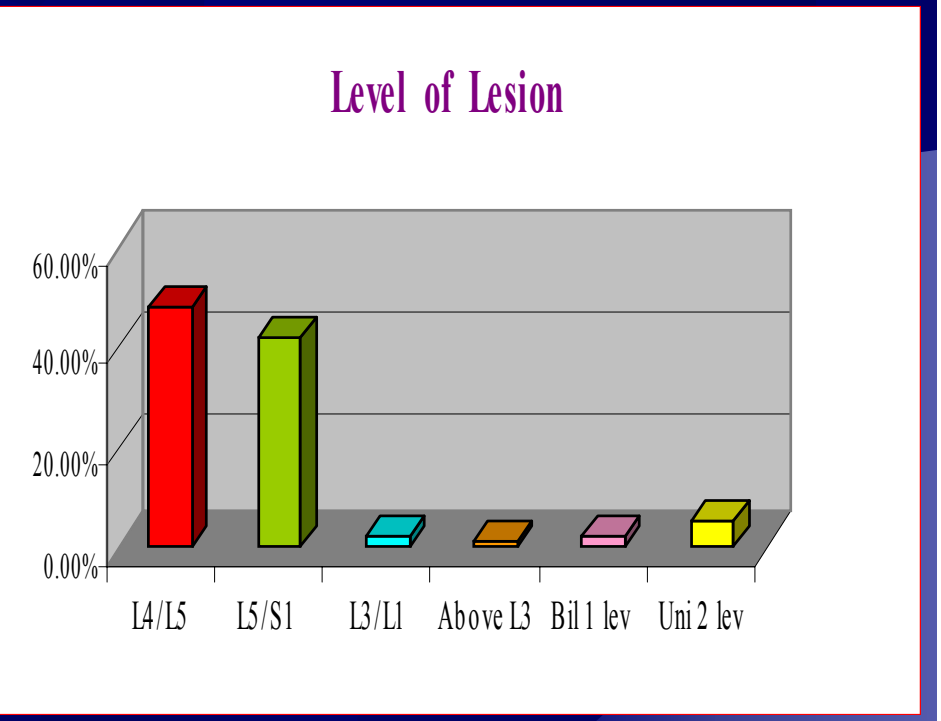


TIME OF SELECTION

- Patient not responding to conservation treatment – 6 months
- Below 25 years not responding within – 3 months.

LEVEL OF LESION

- L4/L5 – 8.2%
- L5/S1 – 2.5%
- L3/L4 – 2.5%
- Above L3 – 1.7%
- Bil 1 lev – 2.4%
- Uni 2 lev – 6%



OBSERVATION ON THE LEVEL OF PIVD

- 5th PIVD – common below 25 yrs
- 4th PIVD – common between 25 to 50 yrs
- 3rd PIVD – common after 50 yrs

POST OP REGIME

- Muscle strengthening exercises: – early
- Work resumption sedentary – 2wks
- Hard manual – 6wks
- Riding two wheeler – 4wks
- Four wheeler – 3wks

RESUMPTION OF DUTIES (SILVER'S CRITERIA)

- Most duties - 2wks
- Hard work - 3 wks

RESULTS

- **97.5% - immediate relief of pain.**

RECURRENCES

- Recurrences :- n = 13 = 2.4%
- **4 pts – technical fault did not leave hospital – reoperated**
- **3 pts – opp. side same level. between 1 and 2 years later.**
- **2 pts – true recurrence – 6 months and 2 years later.**
- **1 pt. – adhesionolysis – no true PIVD.**
- **1 pt. – calcification in PLL causing nerve root irritation.**
- **2 pts – lat rescess stenosis.**

RECURRENCES

- Caspar Yasargil – early period no recurrences
- Silvers – 1988 – 3. 3%
- Wilson – 1979 – 4%
- William's – 1978 – 9%
- Williams – later series no recurrences

STRESS ON ANDASCENT JOINT

- 3 Pts - Higher disc prolapse
  - More than 5 years after surgery
  - Same side
  - Required surgery
  - No pt. with higher disc on the opp. side
- Incidence – 0.5%

COMPLICATIONS

- Stiffness in the back – upto 3 months

  improves with sustained back exercises – 3 months
- List of the spine –

  also improves with exercises – 6wks
- CSF leak – Nil
- Neurological deficit – Nil
- Superficial wound infection – 1
- Disc space infection – n = 2 = 0.36%

MANAGEMENT OF DISC SPACE INFECTION

- Early Diagnosis – Acute pain
  - ESR ↑
  - CRP ↑
- Immobilization
- Effective antibiotic treatment
- 3 drugs e.g → Meropenum
- Dalacin C
- Metrogil
- Effective recovery

ADVANTAGES

- 3D vision; bright illumination
- Magnification
- Meticulous search for disc fragment
- Least morbidity
- More physical comfort
- Less complications
- Can return to original job

CONCLUSION

- Microlumbar Discectomy is the safest minimally invasive procedure providing direct 3-D vision;maximum comfort to the patient and returning him to original job, however hard it may be.