MICRO LUMBAR DISCECTOMY
STATE OF ART TREATMENT
FOR PROLAPSED
LUMBAR INTERVERTEBRAL DISC
INTRODUCTION

1937 – Pool invented minimally invasive surgical spinal techniques.

1939 – Love described basic principles of microdiscectomy.

1953 – Mallis – Invented biopolar coagulation

1950 – Development of versatile & later 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.
DR. P.S. RAMANI

- 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 recess stenosis
iii) Excision of osteophytes.
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
THE OPERATING MICROSCOPE

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

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 - 2 wks
- Hard work - 3 wks
RESULTS

97.5% - immediate relief of pain.
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. – adhesiolysis – no true PIVD.
- 1 pt. – calcification in PLL causing nerve root irritation.
- 2 pts – lat recess 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
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.