



بسم الله الرحمن الرحيم

∞∞∞∞

تم رفع هذه الرسالة بواسطة / سامية زكى يوسف

بقسم التوثيق الإلكتروني بمركز الشبكات وتكنولوجيا المعلومات دون أدنى

مسئولية عن محتوى هذه الرسالة.

ملاحظات: لا يوجد





Endoscopic Transforaminal versus Endoscopic Interlaminar Discectomy in Management of Lumbar Disc Herniation: A Systematic Review of Outcomes and Complications

A Systematic Review

Submitted for Partial Fulfillment
of Master Degree in Orthopedic Surgery

By:

Karim Atef Abdelghani Yousef Salem

M.B.B.Ch.,

Faculty of Medicine Ain Shams University

Under Supervision of:

Prof. Dr. Magdy Gamal Abdelkader Youssef

Professor of Orthopedic Surgery

Faculty of Medicine – Ain Shams University

Dr. Mahmoud Ahmed Ashour

Lecturer of Orthopedic Surgery

Faculty of Medicine – Ain Shams University

*Faculty of Medicine
Ain Shams University*

2022

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قالوا

سببنا انك لا تعلم لنا
إلا ما علمتنا إنك أنت
العليم العظيم

صدق الله العظيم

سورة البقرة الآية: ٣٢

Acknowledgment

*First and foremost, I feel always indebted to **ALLAH**, the
Most Kind and Most Merciful.*

*I'd like to express my respectful thanks and
profound gratitude to **Prof. Dr. Magdy Gamal**,
Professor of Orthopedic Surgery, Faculty of Medicine –
Ain Shams University, for his keen guidance, kind
supervision, valuable advice and continuous
encouragement, which made possible the completion of
this work.*

*I am also delighted to express my deepest
gratitude and thanks to **Dr. Mahmoud Ashour**,
Lecturer of Orthopedic Surgery, Faculty of Medicine –
Ain Shams University, for his kind care, continuous
supervision, valuable instructions, constant help and
great assistance throughout this work.*

*I would like to express my hearty thanks to all my
family for their support till this work was completed.*

Karim Atef Salem

List of Contents

Title	Page No.
List of Tables	i
List of Figures.....	ii
List of Abbreviations	iii
Introduction.....	1
Aim of the Work.....	3
Review of Literature	4
Patients and Methods.....	32
Results.....	38
Discussion.....	63
Summary and Conclusion.....	67
References.....	70
Arabic Summary	---

List of Tables

Table No.	Title	Page No.
Table (1):	Distribution of included cases in each study	38
Table (2):	Comparison between PEID group and PETD group regarding age of the included patients.....	39
Table (3):	Comparison between PEID group and PETD group regarding sex of the included patients	41
Table (4):	Comparison between PEID group and PETD group regarding operative time (minutes) of the included patients.....	43
Table (5):	Comparison between PEID group and PETD group regarding fluoroscopy time (minutes) of the included patients.....	45
Table (6):	Bed rest time (h)	47
Table (7):	Hospital stays (d).....	49
Table (8):	ODI.....	51
Table (9):	VAS	53
Table (10):	Complications.....	55
Table (11):	Comparison between PEID group and PETD group regarding hyperalgesia	57
Table (12):	Comparison between PEID group and PETD group regarding dural tear	59
Table (13):	Comparison between PEID group and PETD group regarding recurrence.....	61

List of Figures

Fig. No.	Title	Page No.
Figure (1):	Shows Zones of Lumbar Disc Herniation. ^[10]	5
Figure (2):	Showing content of intervertebral foramen. ^[11]	6
Figure (3):	Lumbar intervertebral foramina.....	7
Figure (4):	Fluoroscopic image of epidural root block being given at L3 level left side. ^[33]	16
Figure (5):	Tubular retractors ^[47]	22
Figure (6):	Endospine system ^[50]	24
Figure (7):	Showing the patient is placed in the prone position with the hands naturally oriented at the sides of the head. ^[53]	25
Figure (8):	Showing blunt tipped dilator is inserted and docked over the target interlaminar space	26
Figure (9):	Showing introduction of the endoscope and the removed disc fragments	27
Figure (10):	Kambin's Triangle ^[55]	28
Figure (11):	Marking the entry for transforaminal Endoscope.....	30
Figure (12):	Targeting disc space under fluoroscopic guidance.....	31
Figure (13):	PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-analysis) flow diagram for study selection.....	36
Figure (14):	Percentage of PEID and PETD among the studied patients	38
Figure (15):	Comparison between PEID group and PETD group regarding age of the included patients.....	40
Figure (16):	Comparison between PEID group and PETD group regarding sex of the included patients.....	42

List of Figures (cont...)

Fig. No.	Title	Page No.
Figure (17):	Comparison between PEID group and PETD group regarding operative time (minutes) of the included patients	44
Figure (18):	Comparison between PEID group and PETD group regarding fluoroscopy time (minutes) of the included patients	46
Figure (19):	Comparison between PEID group and PETD group regarding bed rest time of the included patients.....	48
Figure (20):	Comparison between PEID group and PETD group regarding hospital stay of the included patients.....	50
Figure (21):	Comparison between PEID group and PETD group regarding last follow up ODI of the included patients.....	52
Figure (22):	Comparison between PEID group and PETD group regarding last follow up of VAS of the included patients	54
Figure (23):	Comparison between PEID group and PETD group regarding postoperative dyesthesia	56
Figure (24):	Comparison between PEID group and PETD group regarding hyperalgesia	58
Figure (25):	Comparison between PEID group and PETD group regarding dural tear	60
Figure (26):	Comparison between PEID group and PETD group regarding recurrence.....	62

List of Abbreviations

Abb.	Full term
<i>LDH</i>	<i>Lumbar Disc Herniation</i>
<i>SAP</i>	<i>Superior Articular Process</i>
<i>NSAIDs</i>	<i>Non-Steroidal Anti-Inflammatory Drugs</i>
<i>ODI</i>	<i>Oswestry Disability Index</i>
<i>PEID</i>	<i>Percutaneous Endoscopic Interlaminar Discectomy</i>
<i>PELD</i>	<i>Percutaneous Endoscopic Lumbar Discectomy</i>
<i>PETD</i>	<i>Percutaneous Endoscopic Transforaminal Discectomy</i>
<i>MBB</i>	<i>Medial Branch Block</i>
<i>RFA</i>	<i>Radiofrequency Ablation</i>
<i>VAS</i>	<i>Visual Analogue Scale</i>
<i>AP</i>	<i>Anteroposterior</i>
<i>RCT</i>	<i>Randomized Controlled Trials</i>
<i>SNRB</i>	<i>Selective Nerve Root Block</i>

