

Original Article

Post-operative Lumbar Discitis: A series of 108 cases; Management & Outcome Experience

Khan RN¹, Al-Amin FA², Sinha S³

Conflict of Interest:

Funding Agency:

Contribution to Authors: Dr Rashidooon Nabi khan, Dr Firoj Ahmed Al-Amin

Manuscript Preparation: Dr Rashidooon Nabi khan, Dr Firoj Ahmed Al-Amin

Data Collection: Dr Firoj Ahmed Al-Amin, Dr Sukanta Sinha

Editorial Formatting: Dr Rashidooon Nabi khan

Copyright: ©2022bang. BJNS published by BSNS. This article is published under the creative commons CC-BY-NC license. This license permits use distribution (<https://creativecommons.org/licenses/by-nc/4-0/>) reproduction in any medium, provided the original work is properly cited and is not used for commercial purposes.

Received: 12 May, 2024

Accepted: 11 June, 2024

ABSTRACT:

Objective:

Post-operative lumbar discitis continues to be a challenge in terms of diagnosis and variability of management. The aim of the study was to retrospectively evaluate the outcome of management of postoperative discitis (POD). **Materials and Methods:** A total of 108 patients treated for POD were included in the study. Clinical, radiological, and laboratory data of all patients were collected and evaluated. All patients were treated initially with bed rest, antibiotic therapy after radiological diagnosis and later surgical management was advised. Surgical management undertaken for most of the patients except 21 patients had conservative management, who denied to operative management. Discitis exhibits a bimodal age distribution, with peaks in early childhood and after age of 50. A male predominance is seen. Risk factors for discitis include diabetes, old age, immunosuppression, IV drug use, alcoholism, and renal failure. Although rare, there is an increased risk of discitis following invasive spinal procedures, estimated at 0.5% for anterior cervical discectomy and 0.25% for lumbar discectomy, with an overall rate of 0.1 to 4% of all invasive spinal procedures. Postoperative discitis accounts for approximately 20-30% of cases of discitis. All cases were followed clinically with laboratory and radiological investigations. **Results:** Surgical management gives early relieve of symptoms than conservative. **Conclusion:** Early diagnosis and proper management are the keys to successful outcome of postoperative spndylodiscitis. Surgical debridement and fusion are aggressive, but fruitful and early recovery for discitis management.

Key word: Post-operative lumbar discitis, spinal fusion

Introduction:

Disc is an avascular structure. So it has less ability to fight against infection. Discitis is defined as the inflammation of vertebral plates due to infective cause. POD can occur after lumbar discectomy. It comprises superficial and deep infections and was first described as a clinical entity by Turnbull in 1953. Exact cause of POD is unknown. The incidence of POD varies from 0.2% to 4% and the cause is mainly iatrogenic and bacterial, with some descriptions of spontaneous discitis.

Whatever the source; either aseptic or infective, only 42–73% of organism could be isolated. But if post-operative discitis develops, then it causes serious problem for the patients.²

Aims & objectives:

- To see the best procedure for discitis management.
- To see the shortest time for recovery.

1. Dr Rashidooon Nabi khan, Associate Professor & Head of the department of Neurosurgery, Sylhet MAG Osmani Medical College Hospital, Sylhet 01711364484/ mdmabikhan@gmail.com

2. Dr Firoj Ahmed Al-Amin, Registrar, Department of Neurosurgery, Sylhet MAG Osmani Medical College Hospital, Sylhet 01717511493/ alamin_64@yahoo.com

3. Dr Sukanta Sinha, Medical officer, department of Neurosurgery, Sylhet MAG Osmani Medical College Hospital, Sylhet

Address of Correspondence: Dr Firoj Ahmed Al-Amin, Registrar, Department of Neurosurgery, Sylhet MAG Osmani Medical College Hospital, Sylhet 01717511493/ alamin_64@yahoo.com

METHODOLOGY:

It was a retrospective study. We managed 108 cases of POD in our centre from 2012 to 2023. All patients were diagnosed as POD by CBC, CRP, MRI of lumbosacral spine with contrast. Managed patients were operated at different centres by different surgeons. Most of the patients were managed by re-surgery and few patients were managed conservatively. Post operatively on 7th post operative day, inflammatory markers were checked. After 1 month, repeat MRI of Lumbosacral spine with contrast and X-ray lumbosacral spine (both view) was done.

RESULT:

Our study shows decompression and spinal fusion following POD relieves early recovery from symptoms, improves quality of life and compliance of patients. Patients who undergone surgical management, became symptom free within 3rd post operative day and return to normal activity within 2 weeks. All inflammatory markers (CRP, ESR, Total and Differential count) at 7th post operative day is almost normal. After 1-month operation, MRI of lumbo-sacral spine with contrast shows no infective foci. On the other hand, medical management needs 6 to 8 months for complete recovery as well as for 3 to 6 months complete bed rest. Also this prolonged period treatment is a heavy economical burden over patients.

DISCUSSION:

From 2012 to 2023, 5000 cases were operated in our centre. Among them, 94 cases developed discitis (1.68%). 14 cases of discitis from other surgeons from different centre. Discitis may develop after;

- a) discectomy
- b) laminectomy with or without instrumentation surgery
- c) less invasive procedure like discography, chemoneu-cleolysis, myelography etc.

We didn't select patient of less invasive procedure. Exact number of post-operative discitis is unknown. But we observe that it may be due to: -

- I. Excessive abnormal manipulation during disc surgery
- II. Impaired sterility
- III. Less pre-operative precaution
- IV. Less immunity of the patient

Age distribution of discitis patient:

Age group (in years)	Number of patients
20-30 yrs.	14
31-40 yrs.	37
41-50 yrs.	25
51-60 yrs.	17
>60 yrs.	7

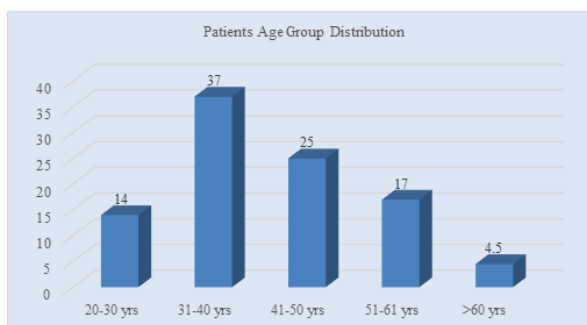


Figure: I Showed Age Group Distribution of Patients

Male female ratio= 63:37

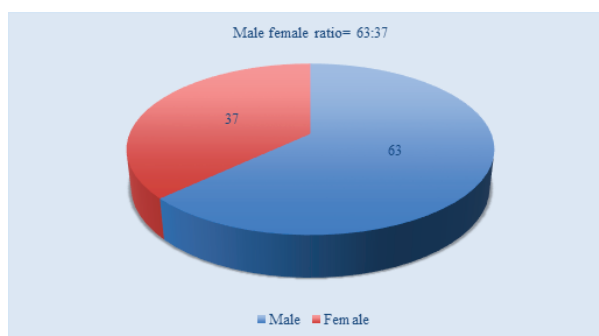


Figure: II Showed Male Female Ration of Patients

Treatment: Among 100 cases

- A. Conservative treatment 26%**
 - Bed rest
 - Healthy normal diet
 - Use of lumber corset
 - Analgesics
 - Antibiotics
 - Anti-inflammatory
 - Anti-depressant
- B. Re-exploration, surgical toileting & debridement 32% (R.S.D.)**
- C. Re-constructive surgery 42% (R.C.S.)**

Recovery time:

Treatment option	Satisfactory outcome(mild to moderate pain, but normal activities & job is possible)	Good (Occasional mild pain)
Conservative Rx	6-8 wks	>16wks
RSD	4-6 wks	>12 wks
RCS	2-3 wks	<6 wks

Causes of discitis: Most common spontaneous discitis & other one is after surgery or intervention. Our study only includes post-operative discitis.

Clinical features of discitis:

- Severe back pain radiates to lower abdomen, pelvic region & sometimes to leg area
- Difficult to maintain normal posture during sitting, lying & standing position
- Back stiffness
- Abdominal pain
- Low grade fever
- Loss of appetite
- Difficult to perform regular task
- Anxiety, depression, irritability

Investigations:

Gold standard investigation for discitis diagnosis is MRI spine with contrast.

Blood test: CBC with ESR, CRP

Imaging: X-ray, CT scan, MRI

Tissue analysis: CT guided biopsy

Bone scan

CONCLUSION:

Post-operative discitis not only hampers patient physically, but also bears miserable sufferings for prolonged period and economical mischief. It also interrupts operating surgeon's regular work. In this experimental study, we try to establish that early surgical intervention in managing post operative discitis has tremendous outcomes in every aspect with comparison to prolonged medical management.

REFERENCES:

1. Turnbull F. Postoperative inflammatory disease of lumbar discs. *J Neurosurg* 1953; 10:469-73
2. Jallo GI, Keenan MA (2011): Diskitis. Medline. Available <http://radsourc.us/discitis/>.
3. Md Kamrul Ahsan¹, Md Sariful Hasan¹, Md Shahidul Islam Khan¹ and Najmus Sakeb, Management of post-operative discitis following discectomy in a tertiary-level hospital, *Journal of Orthopaedic Surgery Management of post-operative discitis following discectomy in a tertiary-level hospital* Md Kamrul Ahsan¹, Md Sariful Hasan¹, Md Shahidul Islam Khan¹ and Najmus Sakeb² 29(1) 1–8 ^aThe Author(s) 2020
4. The Egyptian Journal of Hospital Medicine (July 2018) Vol. 72 (11), Page 5666-5672 Role of Surgery in Management of Discitis Amr Hasan Yousef, Ahmed M El-Sherif, Yousef. A. Barakat Department of Neurosurgery, Faculty of Medicine, Al-Azhar University Corresponding author: Amr Hasan Yousef, Mobile: 01060925550, Email: amrhasanyousef@gmail.com
5. Management of Postoperative Discitis: A Review of 31 Patients, Deepak Kumar Singh, Neha Singh¹, Praveen Kumar Das², Deepak Malviya² Departments of Neurosurgery and ²Anesthesiology, Dr. Ram Manohar Lohia Institute of Medical Sciences, ¹Departement of Radiodiagnosis and Imaging, King George's Medical University, Lucknow, Uttar Pradesh, India