**Anterior versus Posterior Approach in Surgical Treatment of Dorsolumber Spondylodiscitis**

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**Abstract**

**Background:** Spinal infections exhibit a wide range of clinical signs. The clinical effects can encompass the vertebral bodies, intervertebral discs, spinal canal, and adjacent paravertebral structures. Surgical treatment becomes necessary when there's a presence of neurological deficits, epidural abscess, or the development of kyphotic deformity. The approach involving anterior debridement and fusion has demonstrated its efficacy in managing pyogenic spondylodiscitis. This method facilitates direct reach to the infected disc, allowing thorough debridement and proper placement of bone graft to ensure adequate stabilization. On the other hand, the posterior approach is more proficient in correcting kyphosis. **Aim:** The aim of this thesis is to compare the clinical, radiological, and functional outcome of anterior versus posterior approach for surgical treatment of spondylodiscitis. **Patients and methods:** A prospective cohort study was conducted in Benha university hospital including thirty patients with dorsolumber spondylodiscitis were admitted and managed operatively between May 2020 and June 2023. Patients were divided into two groups. Group (A): 15 patients (50%) were operated via anterior approach and group (B): 15 patients (50%) were operated via posterior approach. The diagnosis was established on basis of clinical presentation as well as laboratory and radiological investigations with follow up period of 12 weeks. **Results:** The mean age of patients of group A was 52 ±8 and group B was 52 ±7. The most frequent site in group A was lumbar (46.7%), followed by thoracolumbar (40%) and thoracic (13.3%), while in group B, the most frequent was lumbar (40%), followed by thoracic (33.35) and thoracolumbar (26.7%). Functional outcome (regarding Oswestry disability index) was improved from 84% and 82% preoperatively to 28% and 30% postoperatively in Group A and Group B respectively. Regarding Local Kyphotic Angle, group B demonstrated significantly higher correction degrees than the anterior approach group A. Regarding hospital stay in our study, Group B demonstrated significantly higher hospital stay than group A. Also, Posterior group exhibited significantly higher operative time and blood loss. **Conclusion:** Both the anterior and posterior approaches are effective in accomplishing the objectives of surgical intervention for thoracic and lumbar Spondylodiscitis. However, the posterior approach provides notably superior correction of the kyphotic angle, albeit at the cost of increased operative time, prolonged hospital stay, and greater blood loss. **Keywords:** Spondylodiscitis, Spine infection, Anterior approach to spine, Posterior approach to spine.

**Introduction:**

Spinal infection holds historical significance, with some accounts tracing back to the Iron Age (1). In 1779, Pott provided the initial comprehensive depiction of tuberculosis infection within the spine, while Lanneloung, a century later, introduced the term "pyogenic osteomyelitis of the spine" in medical literature (2).

Spondylodiscitis encompasses a spectrum of disorders affecting bones, discs, and ligaments (3). It encompasses various clinical conditions, such as discitis, osteomyelitis, and epidural abscess. Pyogenic spondylodiscitis constitutes around 2-7% of all musculoskeletal infection cases (4,5). The majority (approximately 95%) of pyogenic spinal infections involve the vertebral bodies or intervertebral discs, with the remaining 5% affecting the spine's posterior elements. The lumbar spine is the most common site of infection (45-50%), followed by the thoracic (35%), cervical (3-20%), and sacral regions (6,7). Typically, pyogenic spondylodiscitis involves two adjacent vertebrae and the intervening disc due to the segmental artery's supply to the disc and lower part of the upper vertebra and upper part of the lower vertebra (8).

Contamination primarily occurs through hematogenous spread or from adjacent tissues. Spontaneous pyogenic spondylodiscitis is primarily associated with Staphylococcus aureus and streptococcus as the prevailing pathogens (9). Symptoms usually appear gradually, with back or neck pain (90% of cases), limb weakness, numbness, and sphincteric dysfunction. Additional indicators encompass fever, nausea, vomiting, weight loss, and confusion (10). The diagnostic process involves laboratory tests, radiological assessments including magnetic resonance imaging (MRI) and computed tomography (CT) scans, as well as thorough tissue sampling for microbiological analysis (11).

In the early stages, non-operative treatment like intravenous antibiotic therapy and external immobilization can be considered for spontaneous pyogenic discitis, particularly when neurological signs, instability, deformity, or spinal cord compression are absent. This approach may also be combined with surgical methods. Surgical management, involving debridement and/or stabilization through instrumentation, is typically employed for symptomatic cases involving neural compression, instability, failure of medical treatment, or uncertain diagnosis (12,13).

**Patients and methods:**

**Pre-operative Evaluation:**

thirty patients with dorsolumber spondylodiscitis were admitted and managed operatively between May 2020 and June 2023. Patients were divided into two groups. Group (A): 15 patients (50%) were operated via anterior approach and group (B): 15 patients (50%) were operated via posterior approach. The diagnosis was established on basis of clinical presentation as well as laboratory and radiological investigations with follow up period of 12 weeks.

**Inclusion criteria:** A- A root, spinal cord, or cauda equina compression is seen on MRI (epidural abscess). B- Spinal instability due to bone destruction or severe deformity such as kyphosis more than 15 degrees. C- An anterior abscess larger than 2.5 cm in dorsal or lumber spine. D- Postoperative Spondylodiscitis. E- Unsuccessful medical treatment of cases initially treated conservatively. F- Severe pain as an indication for surgery. G- Pyogenic, Tubercular or Brucellar spondylodiscitis were included. H- Cooperative patients and medically fit for operations. I- Informed consent to patient treatment and inclusion in our study.

**Exclusion criteria:** A- Spondylodiscitis not indicated in the inclusion criteria. B- Concomitant infections, hepatic and/or renal failure and malignant tumors. C- Cervical spondylodiscitis. D- Patients who are unfit for surgery.

All patients underwent proper **history** taking including age, sex, time of presentation, coexisting medical condition e.g., diabetes mellitus, chronic immune suppression, systemic symptoms (weight loss), examination for fever, localized axial pain, mechanical pain, radicular pain, night pain, and complete **neurological assessment** (motor assessment, sensory examination, reflexes evaluation and autonomic dysfunction examination). **Laboratory investigations**: such as complete blood picture (CBC), erythrocyte sedimentation rate (ESR), C-reactive protein (CRP), blood culture, Widal and Brucella tests were done at the time of presentation, recorded, and followed up. Proper **radiological assessment** was done for all patients including x-ray spine, C.T. spine (thin cuts) with 3D and sagittal views to evaluate the integrity of bone and M.R.I. of the spine to evaluate the condition of the spinal cord, and degree of spinal cord compression.

**Operative Intervention:**

Surgical intervention is employed for patients experiencing spondylodiscitis with neural compression, instability, failed medical treatment, or unproven diagnosis. The surgical approach consists of two distinct methods: (a) debridement of infected disc material, pus drainage, and removal of infected bone until healthy, bleeding bone is achieved; (b) posterior stabilization using instrumentation in cases of instability and/or deformity. This study involved two patient groups: Group A (15 patients) underwent an anterior approach, while Group B (15 patients) underwent a posterior approach.

**Anterior Approach (Group A):** Patients received a single-stage anterolateral approach, with variations such as transthoracic, thoracoabdominal, and retroperitoneal techniques. Under general anesthesia and endotracheal intubation, patients were positioned on their right side. The affected level was aligned on the hinged part of the operating table. Infected material was removed until normal, bleeding bone was exposed. In cases of kyphosis correction, a tricortical iliac autograft was placed in the resulting space between vertebral bodies. Eleven patients with kyphosis and/or instability additionally underwent minimally invasive percutaneous pedicular screw fixation.

**Posterior Approach (Group B):** Patients underwent a single-stage posterolateral approach, being placed prone on a spine fracture table. Pedicle screws were placed two levels above and below the affected area. Temporary fixation and distraction using a unilateral rod maintained spinal stability during decompression and bone resection. Hemilaminectomy and facetectomy were performed first on the more compromised side of the canal. Careful retraction of the cord, cauda, and nerve roots created space for the surgical procedure. Necrotic material and discs were removed, and paraspinal abscesses were drained. The end plates of the superior and inferior vertebrae were prepared for fusion through curettage. A tricortical autograft from the posterior superior iliac spine was inserted into the defect, bridging the above and below vertebrae. Dual rods were placed and tightened for compression.

Surgery duration and blood loss were recorded for assessment.

After debridement and tissue sampling, empirical intravenous antibiotics were initiated, covering common pathogens such as Staphylococcus aureus and streptococcus. Targeted antibiotics continued for approximately six weeks, with variations in administration depending on clinical improvement, laboratory values, and pathogen identification.

**Post-Operative Care:** Specific isolated agents guided the antibiotic treatment, lasting an average of six weeks. For Staphylococcus aureus, oxacillin was administered intravenously for two weeks, followed by oral ciprofloxacin for four weeks upon discharge. For MRSA Staphylococcus, meropenem or alternative schemes were considered. Upon discharge, oral ciprofloxacin was continued for eight weeks.

**Post-Operative Evaluation:**

**Clinical Evaluation:** Patients were assessed on day 1 after surgery, at discharge, and in 3-week intervals. Clinical parameters, including back pain measured using the visual analog scale (VAS) (14) and neurological impairment using the Frankel scale (15), were evaluated.

**Radiological Evaluation:** Postoperative X-rays and CT scans were conducted on the second day after surgery to confirm screw placement and detect instability. Follow-up assessments occurred at 3 months to document fusion or deformity. Fusion and local kyphotic angle (LKA) were evaluated using Brantigan criteria (16) and Cobb technique (17), respectively. Functional outcomes were assessed using the Oswestry disability index (ODI) (18).

**Statistical methods:**

Data management and statistical analysis were done using SPSS version 28 (IBM, Armonk, New York, United States). Quantitative data were assessed for normality using the Shapiro-Wilk test and direct data visualization methods. According to normality, quantitative data were summarized as means and standard deviations or medians and ranges. Categorical data were summarized as numbers and percentages. Quantitative data were compared between the studied groups using the independent t-test or Mann-Whitney U test for normally and non-normally distributed quantitative variables, respectively. Categorical data were compared using the Chi-square or Fisher’s exact test. All statistical tests were two-sided. P values less than 0.05 were considered significant. (19)

**Results:**

**Patient Characteristics**

The mean age of patients of group A was 52 ±8 and group B was 52 ±7. Males were 9 (60%) in group A and 10 (66.7%) in group B. The most frequent site in group A was lumbar (46.7%), followed by thoracolumbar (40%) and thoracic (13.3%), while in group B, the most frequent was lumbar (40%), followed by thoracic (33.35) and thoracolumbar (26.7%). Chronic disease was the most frequent risk factor in groups A and B (80% in each). No significant difference was observed between the studied groups regarding risk factors (P = 1.0). The most frequent predominant pathogen in groups A and B was Staph aureus (40% and 33.3%, respectively), followed by staph epidermidus (13.3 for each), pseudomonas aeruginosa (6.7% for each), mycobacterium tuberculosis (6.7% and 20%, respectively), and brucella (6.7% for each). No significant difference was observed between the studied groups (p = 0.970).

**Clinical Results**

the median VAS score improved from 8 in groups A and B preoperatively to 3 postoperatively in both groups. No significant differences were observed between the studied groups regarding the pre and postoperative VAS scores (P = 0.806 and 0.325, respectively). Regarding Frankel score (202) for neurological impairment, good outcomes (score D & E) were the most frequently reported (33.3%), while in group B, score D was the most frequent (46.7%) with no significant difference observed (P = 0.708).

**Functional Results**

regarding Oswestry disability index (ODI) (18), functional outcome was improved from 84% and 82% preoperatively to 28% and 30% postoperatively in Group A and Group B respectively, with no significant difference between both groups.

**Radiological Results**

Local Kyphotic Angle in group B (Posterior approach) demonstrated significantly higher correction degrees than the anterior approach group A (P-value = 0.024). According to Brantigan criteria, most patients in group A (80%) demonstrated fused criteria compared to 66.7% in group B. Probably fused criteria was reported in 20% of group A compared to 26.7% in group B, with no significant difference (P = 0.682).

Posterior group exhibited significantly higher **operative time** (194 ±25 vs. 169 ±22, P = 0.008) and **blood loss** (882 ±132 vs. 661 ±108, P < 0.001) than Anterior group.

**Results of Complications**

In our study only one patient in group A had complicated wound healing compared to three patients in group B, with no significant difference (P = 0.598). And one patient in group A had infection recurrence compared to two patients in group B, with no significant difference (P = 1.0).

Table (1) Demographics of the studied groups

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Group A(n = 15) | Group B(n = 15) | P-value |
| Age (years) | Mean ±SD | 52 ±8 | 52 ±7 | 0.905 |
| Sex |  |  |  |  |
| Males | n (%) | 9 (60) | 10 (66.7) | 0.705 |
| Females | n (%) | 6 (40) | 5 (33.3) |  |

Table (2) Affected site in the studied groups.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Group A(n = 15) | Group B(n = 15) | P-value |
| Site |  |  |  |  |
| Thoracic | n (%) | 2 (13.3) | 5 (33.3) | 0.520 |
| Thoracolumbar | n (%) | 6 (40) | 4 (26.7) |  |
| Lumbar | n (%) | 7 (46.7) | 6 (40) |  |

Table (3) Risk factors in the studied groups

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Group A(n = 15) | Group B(n = 15) | P-value |
| Risk factor |  |  |  |  |
| Chronic disease | n (%) | 12 (80) | 12 (80) | 1.0 |
| Previous surgery | n (%) | 3 (20) | 2 (13.3) |  |
| Both | n (%) | 0 (0) | 1 (6.7) |  |

Table (4) Predominant pathogen in the studied groups

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Group A(n = 15) | Group B(n = 15) | P-value |
| Predominant pathogen |  |  |  |  |
| Staph aureus | n (%) | 6 (40) | 5 (33.3) | 0.970 |
| Staph epidermidus | n (%) | 2 (13.3) | 2 (13.3) |  |
| Pseudomonas aeruginosa | n (%) | 1 (6.7) | 1 (6.7) |  |
| Mycobacterium tuberculosis | n (%) | 1 (6.7) | 3 (20) |  |
| Brucella | n (%) | 1 (6.7) | 1 (6.7) |  |
| No agent identified | n (%) | 4 (26.7) | 3 (20) |  |

Table (5) Pre and postoperative VAS scores in the studied groups

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| VAS score |  | Group A(n = 15) | Group B(n = 15) | P-value |
| Preoperative | Median (range) | 8 (7 - 10) | 8 (6 - 10) | 0.806 |
| Postoperative | Median (range) | 3 (1 - 5) | 3 (1 - 6) | 0.325 |

VAS: Visual analogue scale

Table (6) Pre and postoperative Frankel scale in the studied groups

|  |  |  |  |
| --- | --- | --- | --- |
| Frankel scale | Group A(n = 15) | Group B(n = 15) | P-value |
| Preoperative |  |  |  |  |
| A | n (%) | 1 (6.7) | 1 (6.7) | 0.745 |
| B | n (%) | 5 (33.3) | 2 (13.3) |  |
| C | n (%) | 5 (33.3) | 7 (46.7) |  |
| D | n (%) | 4 (26.7) | 5 (33.3) |  |
| E | n (%) | 0 (0) | 0 (0) |  |
| Preoperative |  |  |  |  |
| A | n (%) | 0 (0) | 1 (6.7) | 0.708 |
| B | n (%) | 1 (6.7) | 0 (0) |  |
| C | n (%) | 4 (26.7) | 2 (13.3) |  |
| D | n (%) | 5 (33.3) | 7 (46.7) |  |
| E | n (%) | 5 (33.3) | 5 (33.3) |  |

Table (7) Pre and postoperative ODI in the studied groups

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ODI  |  | Group A(n = 15) | Group B(n = 15) | P-value |
| Preoperative (%) | Median (range) | 84 (76 - 94) | 82 (70 - 98) | 0.512 |
| Postoperative (%) | Median (range) | 28 (22 - 82) | 30 (18 - 92) | 0.935 |

ODI: Oswestry Disability Index

Table (8) Pre and postoperative LKA and correction in the studied groups

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LKA  |  | Group A(n = 15) | Group B(n = 15) | P-value |
| Preoperative (degrees) | Median (range) | 31 (24 - 36) | 33 (29 - 41) | 0.149 |
| Postoperative (degrees) | Median (range) | 11 (4 - 15) | 9 (7 - 14) | 0.961 |
| Correction (degrees) | Median (range) | 21 (18 - 23) | 24 (0 - 30) | 0.024\* |

\* Significant P-value; LKA: Local Kyphotic Angle

Table (9) Hospital stay in the studied groups

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Group A(n = 15) | Group B(n = 15) | P-value |
| Hospital stay (days) | Median (range) | 8 (6 – 15) | 12 (10 – 21) | 0.001\* |

\*Significant

Table (10) Operative time and blood loss in the studied groups

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Group A(n = 15) | Group B(n = 15) | P-value |
| Operation time (min.) | Mean ±SD | 169 ±22 | 194 ±25 | 0.008\* |
| Blood loss (ml) | Mean ±SD | 661 ±108 | 882 ±132 | <0.001\* |

\*Significant P-value

Table (11) Brantigan criteria in the studied groups.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Group A(n = 15) | Group B(n = 15) | P-value |
| Brantigan criteria |  |  |  |  |
| Unfused | n (%) | 0 (0) | 1 (6.7) | 0.682 |
| Probably unfused | n (%) | 0 (0) | 0 (0) |  |
| Uncertain | n (%) | 0 (0) | 0 (0) |  |
| Probably fused | n (%) | 3 (20) | 4 (26.7) |  |
| Fused | n (%) | 12 (80) | 10 (66.7) |  |


**Figure 1:** Preoperative **A:** MRI, **B:** X-ray of female patient 56 years old with L5-S1 Spondylodiscitis. Her VAS score on admission was 7. Frankle scale was C preoperatively. And ODI was 84%.


**Figure2: A:** One month follow up X-ray, **B:** follow up x-ray after 3 months. VAS score = 3. Frankle scale was improved from C to D.


**Figure 3:** Preoperative **A:** MRI, **B:** X-ray of male patient 52 years old with L4-L5 Spondylodiscitis. VAS score on admission was 8. Frankle scale was C preoperatively. And ODI was 82%.


**Figure 4:** **A:** Immediate postoperative x-ray, **B:** Follow up X-ray after 3 months. Showing pedicle screws fixation with correction of kyphosis. VAS score = 4. Frankle scale was improved from C to D.

**Discussion:**

A diverse range of clinical manifestations characterizes spinal infections, involving vertebral bodies, intervertebral discs, the spinal canal, and paravertebral structures. Etiologically, these infections can be classified into pyogenic (bacterial), granulomatous (tuberculous or fungal), and parasitic (Echinococcosis) categories (20).

Surgical intervention becomes imperative when neurological deficits, epidural abscesses, or kyphotic deformities develop. The efficacy of anterior debridement and fusion has been substantiated in treating pyogenic spondylodiscitis. This technique provides direct access to the infected disc, enabling thorough debridement, successful bone graft placement, and adequate stabilization. Additionally, it facilitates tissue biopsy for precise microbiological diagnosis. However, the anterior approach alone may not consistently suffice to restore spinal stability and rectify kyphotic deformities, which are more achievable from the posterior approach (21).

This study aims to compare the clinical, radiological, and functional outcomes of the anterior (Group A) versus posterior (Group B) approaches in surgically managing patients with dorsal or lumbar non-specific spondylodiscitis.

Our results show the mean age of patients of group A was 52 ±8 and group B was 52 ±7 with no significant difference (P-value = 0.905). Similarly, Korovessis et al., in 2006 (22) found that the mean age was 55 years in their study. In Pee et al., 2008 (23) the mean age was 58 years in their study.

In our study the most frequent site in group A was lumbar (46.7%), followed by thoracolumbar (40%) and thoracic (13.3%), while in group B, the most frequent was lumbar (40%), followed by thoracic (33.35) and thoracolumbar (26.7%). No significant difference was observed between the studied groups (P = 0.520). In Korovessis et al., 2006 (22) 3 out of 14 patients had thoracolumbar infection while the other 11 were lumbosacral sites. In Včelák et al., 2014 (24) 6 out of 31 patients had thoracolumbar infection while the other 25 were lumbosacral sites.

In our study chronic disease was the most frequent risk factor in groups A and B (80% in each). No significant difference was observed between the studied groups regarding risk factors (P = 1.0). Similarly, Korovessis et al., in 2006 (22) found in their study that chronic disease was the most frequent risk factor 71.4%. In Pee et al., 2008 (23) chronic disease was the most frequent risk factor 66.6%.

In our study the most frequent predominant pathogen in groups A and B was Staph aureus (40% and 33.3%, respectively), followed by staph epidermidus (13.3 for each), pseudomonas aeruginosa (6.7% for each), mycobacterium tuberculosis (6.7% and 20%, respectively), and brucella (6.7% for each). No significant difference was observed between the studied groups (p = 0.970). Similarly Staph aureus was the predominant pathogen in each study of Korovessis et al., 2006 (22), Včelák et al., 2014 (24), and Endres et al., 2012 (25). While Staph epidermidis was the predominant pathogen in the study of Pee et al., 2008 (23).

In this study the median VAS score improved from 8 in groups A and B preoperatively to 3 postoperatively in both groups. No significant differences were observed between the studied groups regarding the pre and postoperative VAS scores (P = 0.806 and 0.325, respectively). While in Hassan K. et al., 2016 (26), there was significantly better VAS of back pain in the posterior group than anterior.

In our study, regarding Frankel score (15) for neurological impairment, good outcomes (score D & E) were the most frequently reported (33.3%), while in group B, score D was the most frequent (46.7%) with no significant difference observed (P = 0.708). Similarly, there was no significant difference in neurological improvement in the study of Hassan K. et al., 2016 (26). However, Bhavuk et al. (27) reported relatively better neurological recovery in anterior group (76 %) than posterior one (72.2 %). They believed that it was more difficult in posterolateral approach to debride the anterior debris and decompress the neural elements with increased incidence of neurological injury than anterior approach.

In our study, regarding Oswestry disability index (ODI) (18), functional outcome was improved from 84% and 82% preoperatively to 28% and 30% postoperatively in Group A and Group B respectively, with no significant difference between both groups. Similarly, there was no significant difference (P=0.05) in functional outcome regarding Oswestry disability index (ODI) in the study of Hassan K. et al., 2016 (26).

In our study, regarding Local Kyphotic Angle, group B (Posterior approach) demonstrated significantly higher correction degrees than the anterior approach group A (P-value = 0.024). Similar results were achieved by Bhavuk et al. (27) as they reported better postoperative angle correction in posterior group (54.3°) than anterior one (23.3°) and relatively less angle loss at latest follow-up (2.2° and 2.8°, respectively). Similarly, Quershi et al. (28) reported that anterior approach cannot significantly correct deformity while posterior approach gives better correction of deformity. This may be attributed to pedicular system which allows better kyphotic angle correction than anterior system. Similarly, the degree of angle loss at latest follow up was significantly less in the posterior group than anterior.

Regarding hospital stay in our study, Group B demonstrated significantly higher hospital stay than group A (median = 12 vs. 8 days, P = 0.001).

In our study, Posterior group exhibited significantly higher operative time (194 ±25 vs. 169 ±22, P = 0.008) and blood loss (882 ±132 vs. 661 ±108, P < 0.001) than Anterior group. Similar results were achieved by Hassan K. et al., 2016 (26) as the average operative time of anterior group was significantly less than posterior one (P=0.05). Also, blood loss and blood transfusion in their study were significantly less in anterior group, than posterior one (P=0.05).

According to Brantigan criteria, most patients in group A (80%) demonstrated fused criteria compared to 66.7% in group B. Probably fused criteria was reported in 20% of group A compared to 26.7% in group B, with no significant difference (P = 0.682). Similarly in the study of Hassan K. et al., 2016 (26) fusion was considered certain in all 20 patients of the anterior group (100 %) and 21 patients of the posterior group (95.4 %).

**Complications:** In our study only one patient in group A had complicated wound healing compared to three patients in group B, with no significant difference (P = 0.598). And one patient in group A had infection recurrence compared to two patients in group B, with no significant difference (P = 1.0).

**Conclusion:** Both the anterior and posterior approaches are effective in accomplishing the objectives of surgical intervention for thoracic and lumbar Spondylodiscitis. However, the posterior approach provides notably superior correction of the kyphotic angle, albeit at the cost of increased operative time, prolonged hospital stay, and greater blood loss.

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