# FACTORS ASSOCIATED WITH SURGICAL TREATMENT OUTCOME OF PSOAS MUSCLE ABSCESS


## ABSTRACT

**Background:** Psoas abscess is a rare condition but one with potential for severe morbidity. Many factors may be implicated in the treatment outcome of the condition and efforts must be directed to identify, understand and control the factors for a better prognosis.

**Objective:** To identify the factors associated with surgical treatment outcome of psoas muscle abscess.

**Methodology:** This descriptive cross-sectional analysis was conducted upon a sample of 58 patients (chosen via non-probability, consecutive sampling) scheduled for surgical treatment for psoas muscle abscess (aged 18 to 60 years) at Dept. of General Surgery at Liaquat University Hospital, Hyderabad & Jamshoro. The data was recorded onto a pre-structured questionnaire comprising of inquiries pertaining to basic biodata, socio-demographic details, presenting complaints, hematological parameters, site, type, etiology and microbiology of the abscess and treatment outcome in terms of resolution of abscess cavity analyzed via SPSS v.16.0.

**Results:** Most common presentation of patients was pain in flanks, followed by fever. Inflated WBC count and high acute phase response was noted among most patients; with C-reactive protein and ESR levels amounting to twice the normal range in all patients. The abscess was commonly right sided (81%) and secondary (82.7%) in origin. The commonest isolated organism was Mycobacterium TB and consequently spinal TB was the commonest etiological factor. Resolution of abscess cavity was noted among 77.5% of the cases with a greater proportion of recovery falling in line non- tuberculous etiology, less altered hematological indices and primary psoas muscle abscess.

**Conclusions:** After careful consideration, it can be concluded that secondary psoas muscle and that with tuberculous etiology have a poorer surgical outcome, thus greater care and more effective surgical techniques may be employed to achieve complete resolution of abscess.



**Keywords:** Mycobaterium TB, Psoas Abscess, Etiology, Treatment Outcome and Secondary Abscess.




## INTRODUCTION

Psoas abscess is a bothersome condition with unspecific presentation and insidious onset, resulting in diagnostic and treatment delays and resultantly, a high level of morbidity i.e. destruction of at least a part of the psoas muscle. [1, 2] Initially believed to be rare, the condition is on the rise and especially due to HIV, I/V drug use, and immunosuppressant therapy; the incidence had risen to cases per 10,000 hospital admissions in the last decade. [3] Studies as early as 1992 have reported a 400% increase in prevalence every 5 years. These studies also report that epidemiological characteristics vary depending on the underlying cause. Primary psoas abscesses account for approximately 30% of cases worldwide. More than 90% occur in developing or tropical countries. 83% of primary cases occur in patients < 30 years. Secondary psoas abscesses are more common, particularly in developed countries and affect the elderly more often. [4-10] Through the surgical management (drainage) is simple and often successful, complications such as avascular necrosis of the femoral head, osteomyelitis, cellulitis of the thigh, and septic arthritis of the hip may arise. Other complications may include iliac vein thrombosis, pulmonary embolism,

hydro-nephrosis, renal failure and further dissemination of organisms especially in immunocompromised patients. Many factors may be implicated in the treatment outcome of the condition and efforts must be directed to identify, understand and control the factors for a better prognosis. [11-13]

## MATERIAL AND METHODS

This descriptive – cross-sectional analysis was conducted upon a sample of 58 patients (chosen via non-probability, consecutive sampling) scheduled for surgical treatment for psoas muscle abscess (aged 18 to 60 years) at Dept. of General Surgery at Liaquat University Hospital, Hyderabad & Jamshoro. Consenting adult patients (of both genders) aged 18 to 60 years presenting with psoas muscle abscess (more than 5 cm) were included in the study. Non-consenting patients and patients suffering from with severe co- morbidities like uncontrolled diabetes mellitus, uncontrolled hypertension chronic, HCV and HBV were excluded from the sample. The data was recorded onto a pre-structured questionnaire comprising of inquiries pertaining to basic biodata, socio-demographic details, presenting complaints, hematological parameters, site, type, etiology and microbiology of the abscess and treatment outcome in terms of resolution of abscess cavity analyzed via SPSS v.16.0.

**RESULTS**

Total of 58 patients of Psoas muscle abscess were evaluated. The mean age of study subjects were 38.5 ± 12.5 (range from 18-60 years).

In current study there were 72.4% (n=42) males 27.5% (n=16) females

In this study most common presentation of patients was pain in all 100% (n=58) subjects from which 50% (n=29) had pain in flanks, 34.4% (n=20) in groin and 15.5% (n=9) in abdomen, followed by fever 72.4% (n=42).Other symptoms included poor health condition 70.6% (n=41), Palpable mass in 43.1% (n=25) from which 22.4% (n=13) was Groin lump and 20.6% (n=12) was Abdominal lump, limitation of hip movement seen in 20.6% (n=12).

Table 1: The factors affected treatment outcome as shown below.

| **Outcome** | | **Gender** | | **Age** | |
|---|---|---|---|---|---|
| | | **M (42)** | **F (16)** | **< 35 (21)** | **≥ 35 (33)** |
| **Drainage in 1st Attempt** | **Complete** | *34* | *11* | *19* | *26* |
| | **Incomplete** | *08* | *05* | *02* | *11* |
| **Mean Resolution Time (Days)** | | *8.42* | *12.11* | *7.02* | *14.83* |
| **Pain Relief** | **1st POD** | *13* | *02* | *08* | *06* |
| | **2nd POD** | *21* | *04* | *05* | *07* |
| | **3rd POD** | *06* | *08* | *04* | *12* |
| | **At Discharge** | *02* | *02* | *04* | *08* |
| **Complete Resolution (Abscess Cavity)** | | *32* | *13* | *18* | *27* |

| | | | | | |
|---|---|---|---|---|---|
| **Duration (Hospital Stay)** | **< 3days** | *29* | *14* | *15* | *28* |
| | **> 3 days** | *13* | *02* | *06* | *05* |

| **Outcome** | | **Tuberculosis** | | **Type** | |
|---|---|---|---|---|---|
| | | **Yes (39)** | **No (19)** | **Primary (10)** | **Secondary (48)** |
| **Drainage in 1st Attempt** | **Complete** | *28* | *17* | *09* | *36* |
| | **Incomplete** | *11* | *02* | *01* | *12* |
| **Mean Resolution Time (Days)** | | *13.71* | *6.40* | *7.81* | *14.92* |
| **Pain Relief** | **1st POD** | *12* | *11* | *09* | *15* |
| | **2nd POD** | *25* | *08* | *01* | *15* |
| | **3rd POD** | *02* | *00* | *00* | *13* |
| | **At Discharge** | *00* | *00* | *00* | *05* |
| **Complete Resolution (Abscess Cavity)** | | *29* | *16* | *10* | *35* |
| **Duration (Hospital Stay)** | **< 3days** | *25* | *18* | *07* | *36* |
| | **> 3 days** | *14* | *01* | *03* | *12* |

## DISCUSSION

In present study a total of 58 patients of Psoas muscle abscess were evaluated. The mean age of study subjects were 38.5 ± 12.5 (range from 18-60 years). Results were comparable with A study from India by Dave BR et al the mean age was 36.5 ± 12.7 (range 18-63 years). Whereas F. Pombo et al has given mean age 35 years (ranged from 19 to 61 years), Elbadrawi AM et al, 32 (range 21 to 55), Aboobakar R, et al, 32 years (range from 10-70 years), Ye F. et al. 38.5±8.7 years (age range from 20 to 63 years. [3, 5, 7, 8, 11]

In current study there were 72.4% (n=42) males 27.5% (n=16) females. Results were comparable with a study from India by Dave BR et al, who has reported in his study that there were 21(72.4%) males and 8 (27.5%) females. Whereas Wong et al has reported 27 (64.2%) males and 15 (35.7%) females, Yadav RP et al, 22 (61.1%) males and 14 (38.9%) females, Y.J Kim et al 63 (54.3%) were male and 53 (45.3%) female. Another study from turkey by Tarhan H, has reported 6 (40%) patients women and 9 (60%) men. Alvi AR, has giving in his study 4 (66.6%) male and 2 (33.3%) female, whereas Tabrizian P, has reported 32 (52.4%) men and 29 (47.5%) women. [1-3, 6, 10, 12, 13]

In this study most common presentation of patients was pain in all 100% (n=58) subjects from which 50% (n=29) had pain in flanks, 34.4% (n=20) in groin and 15.5% (n=9) in abdomen, followed by fever 72.4% (n=42).Other symptoms included poor health condition 70.6% (n=41), Palpable mass in 43.1% (n=25) from which 22.4% (n=13) was Groin lump and 20.6% (n=12) was Abdominal lump, limitation of hip movement seen in 20.6% (n=12). Tabrizian P reporting in his study that non-specific symptoms were found in most patients. The most common initial symptoms, including abdominal pain, other gastrointestinal tract complaints, and lower extremity

pain.

Only 26% (16 of 61) of patients were initially seen with fever (38.5°C),Dave B R et al, reporting in his study Presenting features included back pain (n = 29), radicular pain (n = 6), fever (n = 8), weight loss (n = 15),anorexia (n = 10), walking difficulty (n = 15), spasm (n = 29), range of movement restriction (n = 29), groin mass (n = 5), and pseudo flexion deformity of hip (n = 8). Aboobakar R, et al, also reporting the commonest presenting symptom was unilateral flankpain (50%) and the commonest sign was unilateral flanktenderness (70%). **[3, 5, 13]**

## CONCLUSION

After careful consideration, it can be concluded that secondary psoas muscle and that with tuberculous etiology have a poorer surgical outcome, thus greater care and more effective surgical techniques may be employed to achieve complete resolution of abscess.

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**SPECIFIC CONSIDERATIONS**

IN THE **INTRODUCTION** TOPIC, REGARDING THE LAST SENTENCE, I SUGGEST MENTIONING THE MENTIONED FACTORS AND THE OBJECTIVE OF THE STUDY.
**MATERIALS AND METHODS**: I SUGGEST PUT THE APPROVAL OF THE ETHICS COMMITTEE TO CARRY OUT THE STUDY, AS WELL AS CONSENT TO THE STUDY SAMPLE FOR THE CARRYING OUT.
**RESULTS**: THE FIRST PHRASE MAY BE MENTIONED IN THE TOPIC: MATERIAL AND METHODS. THE SECOND PHRASE MAY BE PART OF THE FIRST PHRASE AFTER THE SAMPLE NUMBER. IN THE THIRD PHRASE SUCH AS THE FIRST SHOULD BE IN THE TOPIC.
TWO TABLES ARE PRESENT, I SUGGEST TO PUT THE TITLE IN THE SECOND. IN TABLE 1 IN THE AGE COLUMN, THE SAMPLE NUMBER DIFFERS FROM THE TOTAL SAMPLE, I SUGGEST REVER. THE RESULTS OF THE SECOND TABLE WERE NOT MENTIONED AND MENTIONING THE TABLES IN THE TEXT, REFERRING TO THIS TOPIC.
**DICUSSION**: SUGIRO REMOVES THE FIRST AND SECOND PARAGRAPH. IN THIS SESSION INFORMATION REGARDING THE RESULTS FOUND, WHICH IN THE PRESENT STUDY, ARE PRESENTED IN THE TABLES, ARE DISCUSSED. THE AUTHORS CITED MUST BE DISCUSSED. I SUGGEST DISCUSS THE RESULTS RELATING TO TABLE 2.
**CONCLUSION**: I SUGGEST REVIEW THE CONCLUSION, AS IT MAKES MENTION OF DATA NOT CITED THROUGH THE STUDY. FURTHER, BASED ON WHICH STUDIES CAN THE RESULTS BE CONSIDERED AS WORST, BE CAREFUL WITH THE AFFIRMATIONS WITHOUT SCIENTIFIC BACKGROUND. CONCLUSION IS NOT IN ACCORDANCE WITH THE PURPOSE OF THE STUDY, I SUGGEST REVER.
NO CONFLICT OF INTEREST AND FINANCIAL DISCLOSURE STATEMENTS HAVE BEEN MENTIONED.