Factors Associated with Surgical Treatment Outcome of Psoas Muscle Abscess

Shahida Khatoon a*, Shiraz Shaikh a, Abdul Salam Memon a, Shahnawaz Khatti a, Aijaz Ahmed Shaikh a and Riaz Ahmed Memon a

aDepartment of Surgery, LUMHS, Pakistan.

Authors’ contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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 study 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 department of General Surgery at Liaquat University Hospital, Hyderabad & Jamshoro. All the patients underwent surgical treatment. The data was recorded via pre-structured questionnaire comprising of inquiries pertaining to socio-demographic details, presenting complaints, and factors association with surgical treatment outcome (in terms of resolution of abscess cavity). Data was analyzed via SPSS version 20.

Results: Mean age of study subjects was 37.6 ± 12.5 years. Out of all 72.4% were males and 27.5% were females. Most common presentation of patients was pain in flanks, followed by fever. The commonest etiological factor was tuberculosis (TB) and consequently spinal (TB) was the most common. Resolution of abscess cavity was noted among 77.5% of the cases with a greater proportion of recovery falling in line non-tuberculous etiology.

Conclusions: After careful consideration, it can be concluded that secondary psoas muscle and

*Corresponding author: E-mail: aishaahmedani@yahoo.com;
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: Mycobacterium TB; psoas abscess; etiology; treatment outcome; Secondary abscess.

1. INTRODUCTION

Psoas abscess is a bothersome condition with unspecific presentation and insidious onset, resulting in diagnostic and treatment delays and resultanty, 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].

2. MATERIALS AND METHODS

This descriptive – cross-sectional study 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 Department 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. After taking medical history and clinical emanation, all the patients underwent surgical treatment. The data was recorded onto a pre-structured questionnaire comprising of inquiries pertaining to socio-demographic details, presenting complaints, and factors association with surgical treatment outcome (in terms of resolution of abscess cavity). SPSS version 20 was used for the data analysis.

3. RESULTS

A total of 58 cases of Psoas muscle abscess were studied. The average age of the patients was 37.6 ± 12.5 years (minimum 18 years and maximum 60 years). Table 1.

Out of all study subjects males were in majority 42(72.4%) and females were 16(27.5%). Table 1.

Commonest presenting compliant was pain among all of the study subjects 58(100.0%) subjects and out of them 29(50%) patients had flanks pain, 20(34.4%) had pain in groin and 19(15.5%) had pain in abdomen, followed by fever in 42(72.4%) of the cases. Other symptoms like poor health condition were noted in 41(70.6%) of the study subjects, palpable mass was in 25(43.1%) cases and of them 13(22.4%) cases had Groin lump and 12(20.6%) had abdominal lump, while limitation of hip movement was in 12(20.6%) of the cases. Table 1.

Factors association with surgical treatment outcome of psoas muscle abscess showed in table.2

4. DISCUSSION

In present study a total of 58 patients of Psoas muscle abscess were evaluated. The average age of the patients was 37.6 ± 12.5 years (minimum 18 years and maximum 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% males 27.5% 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, Y.J Kim et al 63 (54.3%) were male and 8 (12.1%) females, Yadav RP et al, 22 (61.1%) males and 14 (38.9%) females, Tabrizian P et al has reported in his study that there were 21(72.4%) males and 8 (27.5%) females.

Whereas 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.

In this study the commonest presenting compliant was pain among all of the study subjects 58(100.0%) subjects and out of them 29(50%) patients had flanks pain, 20(34.4%) had pain in groin and 19(33.3%) had pain in abdomen, followed by fever in 42(72.4%) of the cases. Other symptoms like poor health condition were noted in 41(70.6%) of the study subjects, palpable mass was in 25(43.1%) cases and of them 13(22.4%) cases had Groin lump and 12(20.6%) had abdominal lump, while limitation of hip movement was in 12(20.6%) of the cases.

Tabrizian P et al. [13] reporting in their study that non-specific symptoms were seen in majority of the cases and the commonest initial symptoms like pain of the abdomen, lower extremity pain and other gastrointestinal tract complaints. Only 26% cases were initially found with fever.

Dave B R et al, reported that the commonest presenting feature was back pain among 29 cases, followed by radicular pain in 6 cases, fever was in 8 cases, weight loss was seen in 15 cases, 10 cases had anorexia, 15 cases had walking difficulty, spread symptoms was in 29 cases, range of movement restriction was in 29 cases, 5 cases had groin mass and 8 cases had pseudo flexion deformity of hip. Aboobakar R, et al, also reporting the commonest presenting symptom was unilateral flank pain (50%) and the commonest sign was unilateral flank tenderness (70%). [3,5,13]

In this study the tuberculous etiology has a poorer surgical outcome. On other hand in the study of Rodrigues J et al. [14] reported that the commonest causative factor was the tuberculosis (TB) and the in most of the cases the outcome was favorable.

Table 1. Descriptive statistics of demographic characteristics n=58

<table>
<thead>
<tr>
<th>Variables</th>
<th>Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (mean±SD)</td>
<td>37.6 ± 12.5 years</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>42(72.4%)</td>
</tr>
<tr>
<td>Females</td>
<td>16(27.5%)</td>
</tr>
<tr>
<td>Pain</td>
<td>58(100.0%)</td>
</tr>
<tr>
<td>Fever</td>
<td>42(72.4%)</td>
</tr>
<tr>
<td>Presenting complaints</td>
<td></td>
</tr>
<tr>
<td>Poor health condition</td>
<td>41(70.6%)</td>
</tr>
<tr>
<td>Palpable mass</td>
<td>25(43.1%)</td>
</tr>
<tr>
<td>limitation of hip movement</td>
<td>12(20.6%)</td>
</tr>
</tbody>
</table>

Table 2. The factors association with treatment outcome n=58

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Gender</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drainage in 1st Attempt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete</td>
<td>34(42)</td>
<td>19(21)</td>
</tr>
<tr>
<td>Incomplete</td>
<td>08(16)</td>
<td>02(11)</td>
</tr>
<tr>
<td>Mean Resolution Time (Days)</td>
<td>8.42</td>
<td>12.11</td>
</tr>
<tr>
<td>Pain Relief 1st POD</td>
<td>13(42)</td>
<td>02(21)</td>
</tr>
<tr>
<td>2nd POD</td>
<td>21(16)</td>
<td>04(11)</td>
</tr>
<tr>
<td>3rd POD</td>
<td>06(16)</td>
<td>08(11)</td>
</tr>
<tr>
<td>At Discharge</td>
<td>02(16)</td>
<td>02(11)</td>
</tr>
<tr>
<td>Complete Resolution (Abscess Cavity)</td>
<td>32(42)</td>
<td>13(21)</td>
</tr>
</tbody>
</table>
Outcome | Gender | Age
--- | --- | ---
| M (42) | F (16) | < 35 (21) | ≥ 35 (33)
Duration (Hospital Stay) | < 3 days | 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) | < 3 days | 25 | 18 | 07 | 36
| > 3 days | 14 | 01 | 03 | 12

5. 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.

CONSENT
As per international standard or university standard, patients' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL
As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS
Authors have declared that no competing interests exist.

REFERENCES


