Splenic abscess: A single-centre retrospective review of 39 cases

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Introduction

- Splenic abscess is an uncommon condition with a reported frequency of 0.14% - 0.7% in autopsy series. [1]

- **Risk factors**: neoplasia, immunodeficiency, trauma, metastatic infection, splenic infarct and diabetes. [2]

- The causative microorganisms can be very diverse. The most common organisms in most reported series have been aerobic microbes, and particularly *Streptococci* and *Escherichia coli*. [3]

- In Singapore, **meliodiosis** was proven to be the cause of splenic abscess in 15 out of 21 cases (71%). [4]

- **Splenectomy** was once considered the gold standard treatment. However, the trend is shifting to a conservative approach.

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Objectives

• To describe the demographics, clinical characteristics, underlying disease, causative organism and therapeutic methods in patients presented with splenic abscess in Kapit Hospital, Sarawak.

• To determine the mortality rate of patients with splenic abscess.
Methodology

• A retrospective study conducted at Kapit Hospital.

• All patients diagnosed with splenic abscess during the 2-year study period (January 2017 till December 2018) were enrolled.

• Diagnosis of splenic abscess was made by ultrasonography as CT scan is not available at our facility.

• A total of 39 cases were reviewed.
Results
Number of cases by gender and age

- Male: 21 (54%)
- Female: 18 (46%)

Gender: Male : Female ratio = 1.2 : 1

Mean age = 33.7 years

Age distribution:
- < 20: 12
- 20 - 30: 7
- 30 - 40: 7
- 40 - 50: 5
- 50 - 60: 6
- 60 - 70: 1
- 70 - 80: 1
- > 80: 0

Total cases = 39
Iban: 35 (90%)
Malay: 1 (2%)
Indonesian: 3 (8%)

Total cases = 39
### Predisposing risk factors

#### Diabetes mellitus
- **Yes**: 8 (20.5%
- **No**: 31 (79.5%

#### HIV
- **Yes**: 1 (2.6%
- **No**: 38 (97.4%

#### CKD / ESRD
- **Yes**: 3 (7.7%
- **No**: 36 (92.3%
Clinical features

**History of Pyrexia**
- Yes: 38 (97.4%)
- No: 1 (2.6%)

**Left abdominal pain**
- Yes: 2 (5%)
- No: 37 (95%)

**White blood cell (≤10 / >10 x 10³/uL)**
- ≤ 10: 24 (61.5%)
- > 10: 15 (38.5%)
Blood culture yield in splenic abscess

Total 39 cases

Positive blood culture
20 (51%)

Negative blood culture
19 (49%)
Blood culture yield in splenic abscess

All (100%) were positive for *Burkholderia pseudomallei*

Positive blood culture: 20 (51%)

Negative blood culture: 19 (49%)

Total cases of splenic abscess: 39
Serological analysis in culture negative splenic abscess

*Serological diagnosis done by ELISA method, positive if antibody titre $\geq 1:320$
Results

• Splenic abscesses in all 39 cases examined were multiple, microabscesses.

• 4 out of 39 patients (10%) were found to have extra-splenic abscess:
  ▪ Liver abscess (1 patient)
  ▪ Eyelid abscess (3 patients)

• All patients were treated as melioidosis with antibiotic therapy as per guideline.

• None of the patients required surgical intervention (i.e. drainage, splenectomy).

• Mortality occurred in 1 patient (2.6%) due to fulminant bacteraemic melioidosis with multiorgan failure.
Conclusion

- *Burkholderia pseudomallei* was the most common aetiological agent of splenic abscesses in our study.

- Although blood cultures are routinely performed, they are useful in only half of the cases. Melioidosis serology aids diagnosis especially in areas where melioidosis is endemic.

- Ultrasonography serves as an useful tool in diagnosing melioidosis in endemic areas.

- Splenic abscesses due to melioidosis are usually multiple and amenable to treatment with antibiotics alone.
Thank you