The Value of Ca 125 in Spinal Tuberculosis

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Abstract : Background : Tuberculosis known as one of most deadliest disease in the world, as much 35% of whole extrapulmonal TB cases afflict the bone, and most of it on the spine. Ca 125 is a useful malignant marker, where the value increase in both malignant and benign.

Objective: The aim of this study was to compare the value of Ca 125 in spinal tuberculosis compare with a healthy person.

Material and Method : A total twenty four patients ( twelve on each group ) of patients with spinal TB and health sample patients were checked for the value of ca 125 between December 2018 and February 2019, gender, age, and the laboratory result of ca 125 were recorded, and the two group result of ca 125 are compared.

Results : There were significant differences value of ca125 between two group (p > 0.05), with mean value of ca 125 in spinal tb group (±48.78), and health patients group (±5.09).

Conclusion : The value of ca 125 on spinal tb found higher compared to health patient, and it showed by p 0.001 (p<0.05).

Key Words : Tuberculosis, Spinal Tuberculosis, Ca 125.

Introduction

Tuberculosis (TB) is one of the long-known diseases and is still the leading cause of death in the world. The prevalence of TB in Indonesia and other developing countries is quite high. In 2006, new cases in Indonesia amounted to > 600,000 and most people suffer from productive age (15–55 years).

About 20% of pulmonary TB infections will spread out of the lungs (extrapulmonary TB). Eleven percent of extrapulmonary TB is osteoarthicular TB, and about half of patients suffer from spinal TB infection. Half have lesions in the spine with neurologic deficits 10 % - 45% of sufferers.
Ca 125 is a protein obtained in the blood in various conditions including ovarian cancer. Examination of Ca 125 levels is often used as an initial screening for ovarian cancer but this examination is not sensitive enough to diagnose the early stages of the disease. Although more than 85% of patients with advanced ovarian cancer have increased Ca 125 levels (> 35 U / ml), it turns out that only 50% have increased in the early stages of the disease. In addition, an increase in Ca 125 levels of more than 35 U / ml was found in 6% of the population without ovarian cancer.

Ca 125 examination is not specific for diagnosing ovarian cancer but it is potential to be used to assess, monitor, and evaluate the therapeutic response to ovarian cancer. Serial reduction in Ca 125 levels indicates a positive response to therapy and vice versa.

Serous type epithelial ovarian cancer expresses Ca 125 significantly higher than other types of epithelial ovarian cancer. A shorter 5-year life expectancy was found in patients with stage III and IV ovarian cancer without Ca 125 expression compared to those with Ca 125 expression.

Preliminary

Before discussing the results of the study, because this study had never been done before, it was carried out with a small scale preliminary study using 8 balanced subjects with 4 subjects (4 subjects with tuberculosis spondylitis, 4 healthy subjects) to get the mean and standard deviation from each group.

Method

The amount of total sample were than calculated to find the amount of each group, 12 sample for spinal tuberculosis and 12 sample for health patients as a control group.

The study conducted was an observational analytic study not paired with a crossectional approach, which aimed to analyze the difference between the levels of Ca 125 values in tuberculosis spondylitis and the control group, in this case in healthy patients.

Results

This study calculate two group of 12 subject for each group, with significant result between two group (P<0,05), with mean value of ca 125 in spinal tuberculosis patient is 48,75 ± 12,75 and mean value of ca 125 in health patients is 5,09 ± 0,64

Tabel 1. Statistic analytic value of ca 125 in spinal tuberculosis and health patients

<table>
<thead>
<tr>
<th>Ca 125</th>
<th>Mean</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spinal Tuberculosis</td>
<td>48,75 ± 12,75</td>
<td>0,0001</td>
</tr>
<tr>
<td>Health Patients</td>
<td>5,09 ± 0,64</td>
<td></td>
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</tbody>
</table>

Discussion

The main purpose of this study is to see the correlation between ca 125 in spinal tuberculosis. The result of this study showed that there is correlation between ca 125 and spinal tuberculosis, proven by significant value of ca 125 in spinal tuberculosis compared the value of ca 125 in healthy patients. There are some other studies showing that there is significant result of ca 125 in tuberculosis extrapulmonal.

Conclusion

The statistic analysis result that compared the value of ca125 in spinal tuberculosis and ca 125 in healthy patients showed significant result, value of ca 125 in spinal tuberculosis is increased.
Conflict of Interest
Non declared in this study.

References
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