An Application Of Cell Block Using Glucomannan In Body Cavity Effusions

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**Objective**: We evaluated a cell block preparation using glucomannan which was judgmented between malignant mesothelioma and carcinoma of the ovary.

**Materials and Methods**: A total of 10 cases were taken from ascites of a patient with definitively diagnosed carcinoma of the ovary (Table 1). The specimen was centrifuged at 1,500 rpm for 5 minutes, the supernatant was removed, was fixed with 20% formalin. The residue was resuspended with 2 ml of eosin solution and 1-5 ml of 80% alcohol, stirred well. Next, after centrifuged the supernatant was removed, 1 drop of a glucomannan-formalin water solution (Asia kizai Co., Ltd.) was added gently. After immersion with methanol for 3 hours, glucomannan is solidified. Next, the preparation of tissue specimens, dehydrated by the routine method, infiltrated with paraffin, and a paraffin-embedded block was prepared.

**Results and Discussion**: HE with immunological stains were performed. We evaluated the cell block method using a glucomannan. This method is easy to perform and is considered to be useful for differentiation between malignant cells and ovarian carcinoma.
**Objective:** It is generally known that cancer cells, mesothelial cells, and macrophages, etc. are observed in the body cavities of cancer patients.

We evaluated a cell block preparation using glucomannan which was judgmented between malignant mesothelioma and carcinoma of the ovary.
**Materials and Methods:** A total of 10 cases were taken from ascites of a patient with definitively diagnosed carcinoma of the ovary (Table 1). The specimen was centrifuged at 1,500 rpm for 5 minutes, the supernatant was removed, was fixed with 20% formalin. The residue was resuspended with 2 ml of eosin solution and 1-5 ml of 80% alcohol, stirred well. Next, after centrifuged the supernatant was removed, 1 drop of a glucomannan-formalin water solution (Asia Kizai Co., Ltd.) was added gently. After immersion with methanol for 3 hours, glucomannan is solidified. Next, the preparation of tissue specimens, dehydrated by the routine method, infiltrated with paraffin, and a paraffin-embedded block was prepared.
<table>
<thead>
<tr>
<th>Case</th>
<th>Age</th>
<th>Sex</th>
<th>Final (Pathological) Diagnosis</th>
<th>Site</th>
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<td>1</td>
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<td>Serous of the ovary carcinoma</td>
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<td>56</td>
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<td>*Clear cell carcinoma of the Ovary</td>
<td>Ascites</td>
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<td>10</td>
<td>70</td>
<td>F</td>
<td>Serous of the ovary carcinoma</td>
<td>Ascites</td>
</tr>
</tbody>
</table>

*Clear cell carcinoma of the Ovary
(3) The precipitate was resuspended with 2 ml of eosin solution.

(4) The suspension was mixed with 1-5 ml of 80% alcohol, centrifuged at 1,500 rpm for 5 minutes, and the supernatant was removed.
(5) To the precipitate, 1 drop of a glucomannan-formalin solution (Holdgel 110; Asia Kizai Co., Ltd.) was added gently.

Method II: A cassette for the preparation of cell blocks

(6) The glucomannan-formalin solution was applied around the cylindrical hole at the bottom of a frame for the preparation of cell blocks (Asia Kizai Co., Ltd.).
(7) Pieces of filter paper trimmed to 6.5 x 2.3 cm were applied to the upper and lower surfaces of the above cell block frame, and the frame was placed in a cassette for the preparation of tissue specimens (System Cassette G, Asia Kizai Co., Ltd.).

Method III: Preparation of a cell block
(8) The precipitate in (5) was aspirated with a syringe and placed in the hole prepared as in (7).
(9) The glucomannan-formalin solution was added gently until the hole was completely filled.
(10) The hole was covered with filter paper, and the lid of the cassette for the preparation of tissue specimens was applied over the filter paper.
(11) After immersion in methanol for 3 hours, glucomannan is solidified and becomes gelatinous.
(12) Columnar gel containing the cell sample (cell block) was removed from the hole, and the filter paper was detached.

(13) The cell block was placed in the cassette for the preparation of tissue specimens, dehydrated by the routine method, infiltrated with paraffin, and a paraffin-embedded block was prepared.
Clear cell carcinoma of the Ovary

H & E stain  x 20
Serous carcinoma of the Ovary

H & E stain  x 20
CA-125 Antibody Positive

Immunocytochemical stain x 20
Results and Discussion: HE with immunological stains were performed. We evaluated the cell block method using a glucomannan-formalin water solution, which is less well known. This method is easy to perform and is considered to be useful for differentiation between malignant cells and ovarian carcinoma in peritoneal. Thus, this new method should find wide application in the future.