TOXICOLOGICAL SCREENING OF ELLAGIC ACID AND BOVINE BONE XENOGRAFT COMBINATION

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BACKGROUND

Ekstraksi Gigi
Resorpsi Ridge Residual
Alveolar Ridge Preservation

= Anti-inflammatory +

Bovine Bone Xenograft = Ellagic Acid

Toxicological Screening

METHODS

FIBROBLAS CELL CULTURE

CONFLUENT

COMBINATION EA AND BBX

TOXICOLOGICAL SCREENING

MTT ASSAY

OBJECTIVE

Analyzing the toxicity of Ellagic Acid and bovine bone xenograft to fibroblasts cell in vitro.

RESULTS

Figure:
Deeper colour demonstrates higher viability of fibroblast
Dark purplish colour was observed in positive control group treated with bovine bone xenograft only while well-distributed purplish color was observed in all treatment groups cell in the well.

<table>
<thead>
<tr>
<th>Concentration</th>
<th>Fibroblast Cell Viability (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ellagic Acid 0,1%</td>
<td>95,5</td>
</tr>
<tr>
<td>Ellagic Acid 0,2%</td>
<td>98,1</td>
</tr>
<tr>
<td>Ellagic Acid 0,5%</td>
<td>92,7</td>
</tr>
<tr>
<td>Ellagic Acid 1%</td>
<td>96,4</td>
</tr>
<tr>
<td>Ellagic Acid 2%</td>
<td>97,2</td>
</tr>
<tr>
<td>Ellagic Acid 3%</td>
<td>92,7</td>
</tr>
<tr>
<td>Ellagic Acid 4%</td>
<td>97</td>
</tr>
<tr>
<td>Ellagic Acid 5%</td>
<td>97,8</td>
</tr>
</tbody>
</table>

Table:
OD value in all treatment groups were greater than 60%
This may be clarified that all treatment groups exhibit no toxicity.

CONCLUSION

1. Toxicological screening for bone graft material combination of bovine bone xenograft and ellagic acid resulted in non-toxic effect upon fibroblast cell culture after treated with ellagic acid at 0,1%, 0,2%, 0,3%, 0,5%, 1%, 2%, 3%, 4% and 5% concentration
2. This result is in accordance with previous study mentioning that 40% standardized pomegranate fruit extract possessed ideal concentration between 2,5% to 7,5%
3. Ellagic acid at 1-3% concentration in several studies also demonstrates antitumor, anti-inflammatory and anticancer activity on lung prostate and brain cancer cells.

REFERENCES