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## THE EFFECT OF PARTIAL DEBULKING SURGERY ON TUMOR GROWTH, SURVIVAL AND TUMOR SPECIFIC IMMUNE RESPONSES

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### Background:

Large tumors are immunosuppressive and can escape from tumor killing mechanism of immune system. Removing part of tumor mass would correct the immunosuppression effect of the tumor. The aims of this study were to determine the effects of partial debulking surgery on tumor growth, survival and specific immune responses and to find whether the different proportion of tumor mass taken out or size of the tumor at the time of surgery has an impact on immune response.

### Methods:

An experimental study was used Balb/c mice as samples and mesothelioma cell line. Samples consist five groups of three Balb/c mice received AB1HA mesothelioma cell lines and have had partial debulking surgery with different proportion of tumor mass taken out where other groups have different tumor size at the time of surgery were debulked and leaved minimum tumor mass. Mice were then monitored for tumor growth after surgery, survival and organs were analyzed to find the percentage of effectors immune cells, their activation and function.

### Results:

Mice with 75% and 100% of tumor debulked showed inhibition in tumor growth and greater survival compared to sham, 25% and 50% debulking mice. Smaller tumor size at the time of surgery showed a better survival and slow tumor growth compared to large tumor size ( $p=0.008$ ). There are trend of decreasing CD8+ lymphocytes in draining lymph nodes and non-draining lymph nodes within time after surgery but increasing the expression of interferon gamma of the cells with no different between both groups.

### Conclusion:

Tumor mass debulking would give a better immunologic response in smaller tumor size at the time of surgery and greater proportion of tumor mass taken out.

### Keywords:

Partial debulking, mesothelioma, immune responses