Reviewer's report

Title: Microspheres Targeted with a Mesothelin Antibody and Loaded with Doxorubicin Reduce Tumor Volume of Human Mesotheliomas in Xenografts

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Reviewer: Penelope Ottewell

Reviewer's report:

Mesotheliomas are clearly an unmet clinical need and attempting to target these tumours with doxorubicin loaded microparticles is a relatively new and up and coming methodology that should translate into the clinic making this a highly relevant study.

Minor essential revisions:

The microparticles used in this study were coated with an antibody to mesothelin to enable targeting of the tumour cells before delivery of doxorubicin. Mesothelin is also expressed in the plura and pericardium. As doxorubicin is known to have severe cardiotoxic effects it would be useful if the authors could show how much doxorubicin is delivered to the heart muscle following microparticle injection into tumour bearing mice.

Authors state that tumours treated with doxorubicin loaded microparticles have increased numbers of tumour associated macrophages. Macrophages are divided primarily into two classes M1 which contribute to tumour suppression ans M2 which promote tumour progression. Authors should stain their tumour sections to identify which types of macrophages are promoted in their tumours following delivery of doxorubicin.

Authors state that metastasis are reduced following microparticle delivery of doxorubicin- please show these data.

Tumour volume should be calculated as 2/3 pi (r)2. Please correct this

Discretionary revisions:

This manuscript would benefit from data showing effects on apoptosis and tumour associated vasculature.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:

I have no competing interests